THE BUILDER

A RECORD OF ARCHITECTURE & CONSTRUCTION

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DEC 24 1918

VOLUME CXV. No. 3954.
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FRIDAY, NOV. 15, 1918.
REGISTERED AT THE GENERAL POST OFFICE AS A NEWSPAPER.

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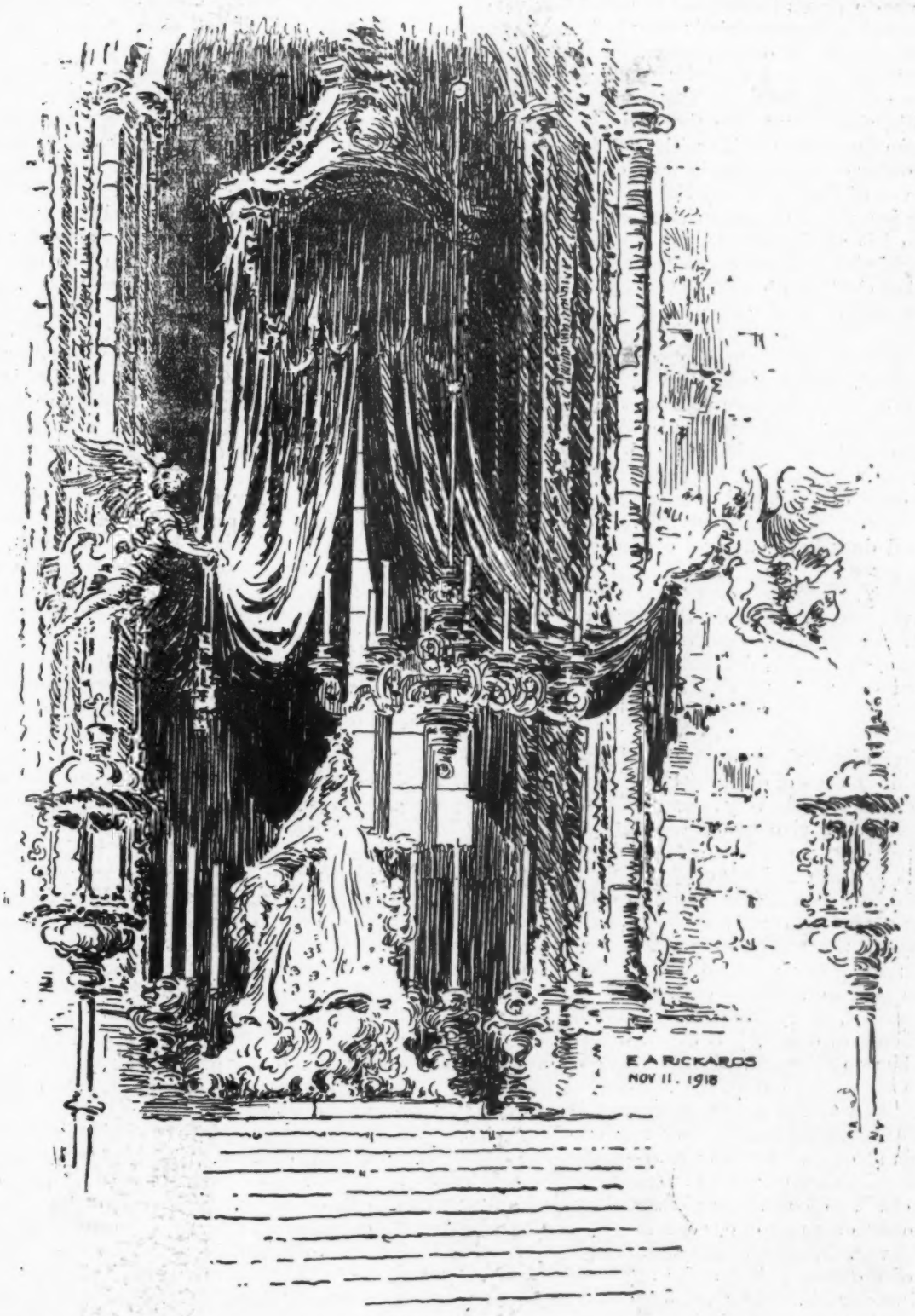
THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

VOL CXV.—No. 3954. NOVEMBER 15, 1918.



NOV. XI
1918

THE FLOWERS OF VICTORY.

SO here is Victory; and with Victory, Peace. Victory such as we never knew, for the whole historic world never saw its like; and Peace, an old friend, but never recognised as we recognise her to-day.

There are people who may be said to have never known a day's health, because they have never experienced a week's illness. It was almost so with us. The wars of our generation had scarcely ruffled our peace. They had never brought home to hearts in England the chill fear which dare not speak aloud its inmost dread; they had never gnawed at our food nor clutched at our savings, never frozen our hearths or blackened our hopes as this war, in its darker hours, had done. Bitter and desolating as had been their mowing down of young life, their thrust into the happiness of homes, they none of them flung their sickle with such long-drawn cruelty into the growing corn of England's manhood. But now the lifting of the veil of these four dreadful years has shown us the beauty, the joy, the abiding consolation of that dear companion Peace, who left us, in that August that seems so long ago, so little prized then because so steadfast and, it seemed, so sure.

And what shall we do with our treasure regained? First, with all strength of mind and voice, give thanks to the God of Battles and the Prince of Peace. No empty or formal thanksgiving will this be, but the outpoured gratitude of full hearts.

All England, having given thanks where thanks are due, first to the over-ruling Power that sent to earth for a season not peace but a sword, and secondly, to those men—our brethren—who took the sword that Heaven had thus so strangely sent, may then set, nay, *must* set, her house in order. And what of our own corner of this world of triumph—the little household of architecture? What have we before us? On what vision of hope and duty have our eyes opened on this daybreak of victorious peace?

We are like, it seems, some poor relation who has inherited suddenly the money, the lands, the home, and the possessions of a distant kinsman of great wealth. Every glance shows us new vistas of the park and pleasaunce which has unexpectedly become our own; every search finds new beauties of garden and house. Every key turned in cupboard or cabinet reveals unsuspected jewelry, unimagined books, unthought of household goods, things of use, things of beauty, things of rarity to which our eyes, in the days of our straitened life, had been strangers. To catalogue these in the very moment of first blissful possession, to say which shall give us our first enjoyment among them, how we shall order them, how we shall set them forth, how we shall profit by them and ask others to hare in them—all this seems an impossible task for the first days of breathless surprise.

But we must draw ourselves to the work. These possessions—to carry on the metaphor—must at least be "valued for probate"; somebody must go through these rarities one by one. The possessor, in this case, is the best steward of his own possessions, and if he does not take reckoning of them himself there are others, just critics of his indifference, who will call him to account and tell the world of his neglected trust. So let us give our account. Longer acquaintance with our acquisitions will, it is true, bring fresh hoards to light; we cannot at first sight be sure how much we possess, but we must begin at once with what we see—truly, a good pile—and so order ourselves and our time as to make the finest use of it all.

First of all, to look where pleasant duty lies, we recognize what we owe to the men of our own Art who have taken actual part in the war. We must make sure that, as far as in us lies, not one of those men shall suffer any avoidable loss by his period of soldier life. Their welcome back to England must be a hospitable welcome, which bids them share to the full the opportunities of our craft. What is too good for those men? What is too much to ask of us?

Many of these warrior architects left England at the moment when their feet were just planted in full hope on the lower steps of the stairway of art. No crowd of our making, no jostling, no unwillingness of the helping hand, must hinder their attempts to start again at least on the step where they left off. The suggestion that this might not be so need only be made to be repudiated, but it will be worth while to remember that the opportunities of helping these younger artists who have done so much for us and at so great a risk to their own careers, are opportunities of gold.

Others—older men—young enough to fight, but not too young to have reached that success which shines on brilliant workers in very early middle age, may have made even greater sacrifices. In their case, our opportunities may be more difficult and all the more golden. Let none of us lose this treasure.

Again, there are the men—the boys, shall we say?—with whom architecture had been little more than an act of dedication, whose very training had scarcely begun. What shall we do for them? They will surely, as part of their welcome home, have their share in that improved education which we hope will be one of the glories of the new era of architecture.

The education of the architect, the amelioration of which is no new idea born of this present moment of excitement, but the dream of many men who have this matter at heart, will go forward, we are sure, with new hope and new force under the energy of England's reconstruction. It is too big a theme for enlargement here; but it is at least the subject of strenuous study to many of our leading men, and it is not too much to say or to hope that the time is near when the keenest effort will be made, not merely to add value to the young architect's training, but to aim in that training at the production of designers who shall be, as men and architects, wiser, abler, more learned more imaginative than their predecessors.

Next, we must face bravely and broadly, our new opportunities. The pent-up dam of war's restrictions in architecture is about to burst. At first, no doubt, the stream will merely trickle, but the torrent will come. How shall we swim with it? Borne helplessly along or thrusting boldly through the current? We have no doubt of England in this matter. Her architecture of the great post-war period will be known in centuries to come as a marked epoch. But—and here we maydiffer from somewhose aspirations are set upon some great break from the traditions of the past, or at least upon some bold casting aside of the bondage of style—we do not believe that those men who set forth with the *primary* idea of producing work unlike the work of bygone years will be the most successful in the verdict of posterity. It is enough to say this: England will have new needs, England will have new materials. Probably the best and the most original work will be produced by the men who, trained in historic architecture, yet fix their minds wholly and primarily on faithful fulfilment of the new needs and faithful use of the new materials. Such a man's sincerity to his practical problem aided rather than hindered by his academic knowledge, will produce, whether he consciously aims at it or not, original work. Originality of form followed as an end in itself leads down the grim road to "kultur." True originality comes naturally, and is never hindered by the strictest training in the forms and proportions of past ages. Further, be it said, no really great artist is unoriginal, though many original designers are no artists.

It is impossible to conclude this victory-thanksgiving without a word on what is unpleasantly called the unity of the profession. To discuss it here would be to speak of differences of opinion, and it seems a mistake to label as differences what are only after all healthy and normal divergencies of thought. So we will not here begin a discussion, even though some go the length in their divergencies of debating even the form which our unity should take. One favours the turning of our architectural polity into a walled city, another is for leaving it without ramparts, held together rather by the tie of education and fellowship than by the boundary of a legal frontier. To-day, when we are not disputing, it is enough to feel sure that there is no bond of union like the community of high aims. We shall have such aims, and with them, by sacrifice here, by persuasion there, will come some clearer outward manifestation of what truly is never in doubt—the Unity of Architects.

NOTES.

Needs of the Building Trade.

WE understand that provision has been made for the early release of men for whom employment is waiting or who belong to a trade to which priority has been given. The claims of the building trade will be considered on their merits when the time arrives. The Department is in communication with the Building Industrial Council, which covers Scotland, with regard to the selection of a limited number of pivotal men in the trade for whose release in advance of general demobilization it is hoped that it may be possible to make arrangements.

Remobilization of Industry.

AN article of considerable interest by Dr. Addison, Minister of Reconstruction, appeared in a contemporary on Monday, in which it is stated that the successful remobilization of industry depends on five things:—(1) Orders for goods, (2) Materials, (3) Labour wherewith to execute these orders, (4) Finance, (5) Adequate transport for both raw materials and finished goods. As he says, the position as to orders will cause little anxiety as the markets of the world are depleted as never before, and there will be an adequate supply of labour. But will the raw material for those orders exist? He is fairly confident that for the most part they will, but "care will undoubtedly be needed to ensure the best national distribution of these materials, and we cannot have raw material held up for purely selfish, private purposes, while purposes having a fuller national value may have to go short. Nor can there be price without limit, with the highest bidder taking them off regardless of the purpose for which he may wish to use them."

Priority.

THIS is an argument with which we are familiar, and one, moreover, with which few people will be found to disagree. What follows we will indicate in Dr. Addison's own words:—"To adjust this complex problem an arrangement for determining 'priority' has been thought out. A strong central authority (the Standing Council on Post War Priority) whose names include leading business men of the country has been set up, and this body will determine such priority questions as arise. As to distribution within particular trades (*i.e.*, among individual firms), that we wish to be undertaken by the trades themselves through their Joint Industrial Councils, Interim Reconstruction Committees, where these bodies exist, and failing them through other existing trade associations. The settlement of the claims of individual firms is to be largely a matter for the trades themselves and not the Government." We dealt with some of the questions involved in this statement in a recent leading article, and we are assured that the position and interests of all parties concerned will be adequately safeguarded.

Plans for Peace.

SPEAKING at Birmingham a few days ago, Mr. G. H. Roberts, Minister of Labour, made some important remarks in reference to labour settlement. Previously, he said, men had been discharged by military units, but now an entirely new principle was to be adopted. They would arrange for the release of men according to the state of national trade. That would give some reasonable assurance that when men were released they had a prospect of entering employment

"The Return of Alsace and Lorraine."

[At the moment when the return of Alsace and Lorraine to France is practically accomplished, we think it appropriate to give this design for stained glass by M. Wagrez to symbolise the event.]

and earning a livelihood. He preferred to retain men in the Army longer than would appear necessary rather than that they should be released haphazard, simply to swell the ranks of the unemployed at home. The local advisory committees would be required to collect information in their respective districts as to the state of industry, and the information thus obtained would allow the demobilization officers to judge of the class of labour that could be placed. They had a very shrewd idea of the number of people who could be handled day by day and the efficiency of the work of the local advisory committees would largely determine the progress of demobilization. The stocks of raw material at the disposal of the country were much better than even he had contemplated.

Industrial Accidents. As showing the value of good lighting in connection with the reduction of accidents, the records of the Travellers' Insurance Company of the United States give the following results. Of 91,000 industrial accidents recorded in 1910, 23.8 per cent. were due directly or indirectly to poor lighting. It should be noted that this record refers only to the accidents investigated by this one insurance company. For the same period an estimate is made that puts the total industrial accidents of the United States at 500,000 and on the basis of the Travellers' Insurance Company's percentages, about 125,000 of these accidents were chargeable to the lack of proper illumination eight years ago. Since that time insurance companies have studied lighting conditions in factories in order to classify the risk and, as proper lighting resulted in lower premiums, it was not long before factory managers and their engineers worked out better methods of illumination. The result of this is that during the last two or three years the improvements in lighting have caused a reduction of at least 30 per cent. in accidents which are chargeable to the lack of proper illumination. The risks involved by bad lighting are well understood by anyone using the streets of London at night during the last few years, and the effect of the brilliant light in Cheapside this week has been almost bewildering.

The Presidentship and the Provinces. In expressing the hope that we shall soon see an architect from the provinces in the Presidential chair of the R.I.B.A., Mr. Perkins Pick raises a question of considerable interest. Selection by merit—for personal rather than for representative qualification—appears to be the general rule. However carelessly this rule may sometimes have been applied, there seems no evidence at present of any intention to abandon it. There may be a good deal to be said from the representative point of view; the Institute, representing all the Allied Societies, its President might be chosen from them more or less in rotation. But while the present system of selection for some kind of personal distinction obtains, and while the great majority of those with claims to distinction continue to practise in London, the choice seems most likely to fall on London without carrying with it any reflection on the provinces—apart altogether from the claims of London to the presidentship of what after all is its own local society.

The Future. The Institute being a metropolitan society, there are also obvious advantages in a President with metropolitan experience and outlook, in addition to the practical convenience of a man on the spot in daily touch with its numerous activities. Other things being equal, these geographical advantages may well turn the scale. Undue importance, however, may sometimes have been attached to them, to the prejudice of the claims of provincial men. But if Mr. Pick's desire for a provincial president is shared by the majority of architects, we imagine it will not be with any idea of adjusting the balance by choosing provincial men simply because they are provincial. Rather will it be in the hope that, as architecture advances, so many architects of distinction will eventually practise in the provinces, that the choice will more often fall on them in spite of the practical disadvantage of their distance from the centre.

St. Sophia. The fall of the Turkish Empire, involving the loss of Constantinople, gives ground for some anxiety as to the safety of St. Sophia. Orthodox Moslems are not likely, perhaps, to damage a building associated with the exercise of their faith for over four hundred years, but the attitude of the renegade or Germanized Turk is not so easily gauged. Now that the British Fleet is on the spot it is to be hoped that special precautions will be taken to safeguard one of the most interesting and valuable buildings in the whole history of architecture.

"Triumph of the Republic."

[We give this illustration of Dalou's fine monument in the Place de la Nation, Paris, as it is peculiarly apropos of the foundation of several new republics.]

GENERAL NEWS.

The Carillon of Bruges.

The fate of the famous carillon in the Tour des Halles, Bruges, has been in doubt for a long time past, but there is now definite information that the bells are safe and uninjured. M. A. Nauwelaerts, the present official city carillonneur, who is serving in the Belgian Army, visited Bruges a few days ago, says the *Times*, and found the bells of the carillon intact. The Germans had cut all the connecting wires of the clavier, but these were soon readjusted. There are great hopes now that the magnificent carillon of Malines has survived.

Bricks for Housing.

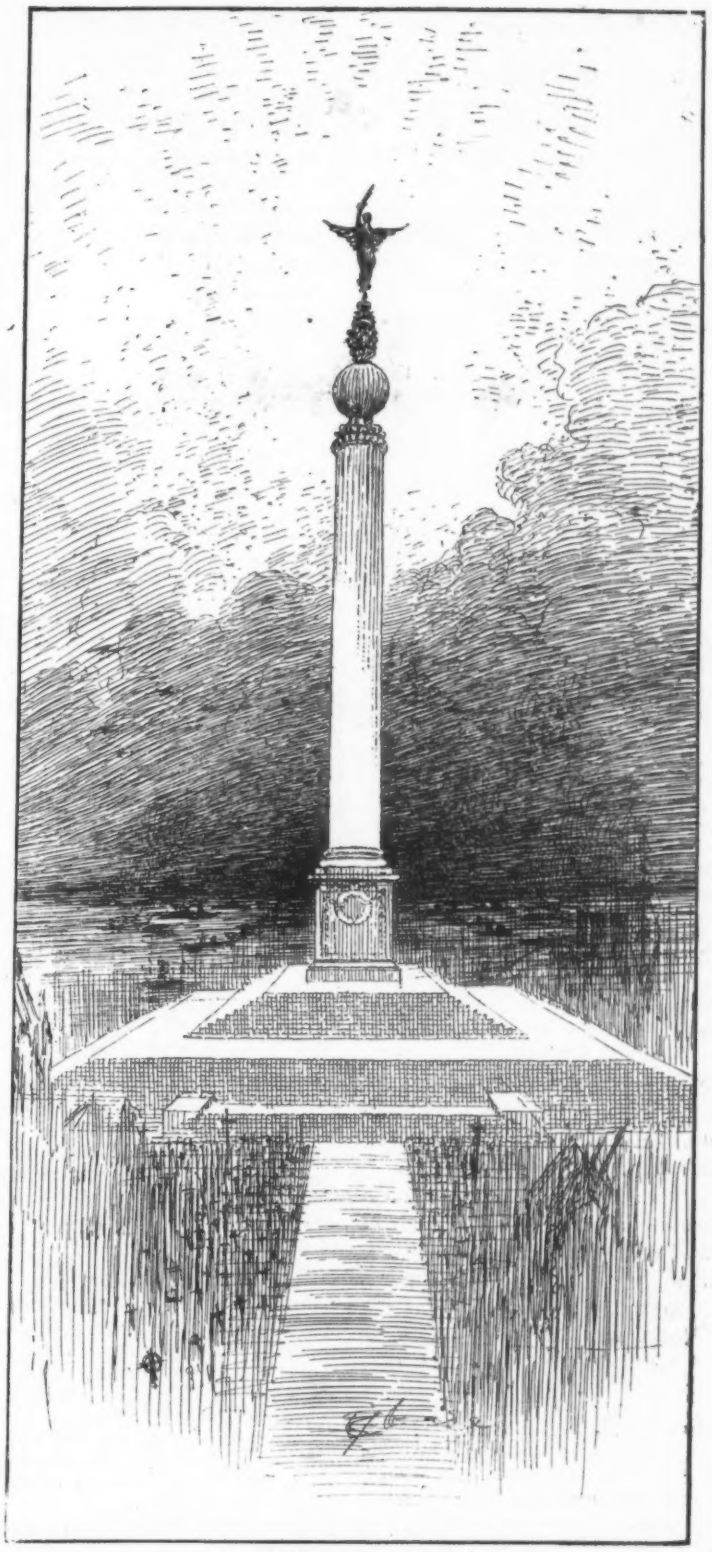
Lord Wolmer has asked what is the estimated quantity of bricks required for the building of 300,000 houses after the war; and whether their cost, or the price the Government would be prepared to allow for them, could be stated. Dr. Addison writes in reply:—I understand that the quantity of bricks required for the building of 300,000 houses is estimated at approximately 6,000,000,000. It is, however, obvious that in any estimate which may be made there are a good many variable factors, as, for example, the consideration of alternative methods of construction. With regard to the latter part of the question it is not possible, under existing conditions, to give a reliable estimate of post-war prices.

Ministry of Health Bill.

The chief provisions of this measure are:—1. The Bill brings together under one Minister the health duties of the Local Government Board, the Insurance Commission, the duties of the Board of Education in regard to the health of mothers and children, the duties of the Privy Council in regard to midwives, and the duties of the Home Office in regard to the protection of infant life. 2. Power is taken in the Bill to bring in, as and when it is desirable, other considerable health duties, including the medical inspection and treatment of school children (now under the charge of the Board of Education), the treatment of sick soldiers (now with the Ministry of Pensions), and the Home Secretary's powers with regard to lunacy and mental deficiency. 3. An important feature of the Bill is the provision of advisory or consultative councils as part of the machinery of the Ministry.

Lifts.

At the inquest held by the City Coroner, Dr. Waldo, in the City Court on the 14th ult., on a lad aged 14 years, the jury in returning a verdict of death due to injuries from accidental causes, caused by a fall through the well of a passenger lift, added the following unanimous rider:—"We (the jury) unanimously wish to add to our verdict a rider to the effect that, in our opinion, a door which can be opened by any person other than the lift attendant within the lift never ought to exist. Further that every lift ought to have two doors, one attached to the structure of the building and the other attached to the car of the lift, both incapable of being opened except by the lift attendant. We are further of opinion that all lifts, before being used, should be passed by an effective Government authority, and should from time to time be inspected by that same authority. In other words, we agree with the Coroner in his report for 1917 to the City Corporation when he says: 'Other deaths due to natural causes, 10 were due to lifts, eight in the City and two in Southwark. These figures show a decrease of four deaths over those occurring in the year 1916, when there was a total of 14 such deaths—10 in the City and four in Southwark. A majority of those deaths were caused by a fall through the lift well, and the remainder by crushing. Defects in the doors and in the mechanism of the lifts, coupled with their inefficient and careless use, mostly lead to these accidental and preventable deaths.'" The Coroner in summing up said the deceased dashed at the handle of the lift door after ascending some 2 ft. from the second floor, opened it, and fell down the lift well 58 ft.



A Peace Souvenir.

[As the clouds roll away on the advent of Peace, the path that led to victory out of the shadows of war leads us instinctively to the thought of some great monument which shall stand for ever amongst us as a dignified symbol of all we have fought for.—ED.]

A Demobilisation Board.

The Minister of Munitions has appointed a Demobilisation Board to deal with all measures affecting the demobilisation of munitions works and the liquidation of contracts, apart from the questions assigned to the Resettlement Board under the Minister of Labour. The Board will consist of the following members:—Sir James Stevenson, Bt., chairman; Mr. H. H. Piggott, C.B.E., secretariat; Sir Stephenson Kent, K.C.B., Labour; Mr. W. T. Layton, C.B.E., priority; Sir Arthur Duckham, K.C.B., liquidation of contracts (aircraft and engines); Sir Gilbert Garnsey, K.B.E., liquidation of contracts (all other contracts); Mr. Alexander Walker, disposal and sale of stores; Sir Keith Price, disposal of factories, &c.; Major-General the Hon. Sir F. R. Bingham, K.C.M.G., military services. The Secretary of the Ministry (Sir W. Graham Greene, K.C.B.), the Assistant Secretary (Mr. J. E. Masterton Smith, C.B.), and the Chairman of the Finance Committee will be *ex-officio* members of the Board. The Board will be assisted by the following expert advisers:—Mr. S. Dannreuther, C.B., Sir Philip Henriques, K.B.E., Sir John Mann, K.B.E., Mr. W. J. Larke, O.B.E. Financial Department representatives will also be attached to members of the Board. The Board will continue to be advised on Labour matters by the Resettlement Board under Sir Stephenson Kent, K.C.B., who remains a member of the Munitions Council.

CORRESPONDENCE.

Proposed Empire War Memorial.

SIR,—Apart from the individual merits of Major Pawley's proposals it is extremely doubtful whether any scheme of town planning can reflect the glorious achievements of the British nation, or its sad sacrifices, or can embody the wonderful spirit of courage and unity which has actuated the allied nations in their fight against a common peril.

The London war memorial should embody the symbolic representation of national sacrifice and of the elements of international effort which have resulted in victory. It should be a great monumental centre replete with the inspired productions of sculpture and painting, guarded by magnificent architecture. This memorial should be approached by a majestic way leading from one of the nerve centres of the great metropolis—the heart of the Empire.

These essential requirements could not be embodied in the scheme under review, and one would like the Empire War Memorial Committee to reconsider this view before pressing their scheme upon the Government.

T. S. BENNETT.

Relationship between Employer and Employed.

SIR,—Your correspondent, "Works Manager," is perfectly right when he shows, in a recent issue of the *Builder*, that it is more profitable in the long run for the employer to study thoroughly his employees, and to surround them with a more congenial atmosphere.

It has been proved over and over again that sympathetic handling of a worker is one of the greatest stimulants to production. The most far-seeing employers of labour recognise this principle no less than prominent trade union leaders.

The organisers of the National Alliance of Employers and Employed are advocating this policy all over the country. We believe that the employer, on the one hand, must be sympathetic towards the workers—must realise that they are not mere mechanical contrivances, but human beings. On the other hand, the worker must learn to sink that spirit of suspicion which presupposes that the employer is endeavouring all the time to exploit him for his own ends. We do not pretend that it will be easy to bring this happy state of affairs to pass, but much will be gained if employers and employed will only endeavour to forget that Capital and Labour are necessarily antagonistic.

T. ERNEST JACKSON,
Trade Union and Labour Organiser,
National Alliance of Employers and Employed.

Materials from Temporary Buildings.

SIR,—Amidst the signs of coming Peace, many are naturally considering the ways and means of opening up again the great industry of building. All are agreed that for some time to come there will be a great shortage of materials, particularly timber, therefore the following suggestion is made, not only with a view to assisting the depleted supply, but also as a national economy.

The many temporary buildings that have sheltered the genius of the various extra Government departments will, in course of time, be demolished; and it is suggested that the numerous doors, fanlights, sashes, partitions, floor and roof boards, slating and other suitable materials should be carefully pulled down, stored and made available for re-use in some of the projected housing schemes, &c.

It would, indeed, be a great honour to have in one's house the very door that was used during the great war by the many thousands applying for permits, and then calling many days thereafter to see if the said permits had finished their laborious and tedious routine. This sarcasm may be permitted as a sigh of relief, and in the hope that in the near future we may get back to the ordinary business methods, which have always been sufficiently prompt and effective.

E. A. ROOME & Co.

THE CATHEDRALS OF THE MARNE-AISNE DISTRICT.

At the University of London, Gower-street, Professor F. M. Simpson, F.R.I.B.A., recently delivered a lecture on "The Cathedrals of the Marne-Aisne District: Reims, Soissons, Laon, &c." The lecture was illustrated with a number of excellent lantern slides, including several of Reims Cathedral, showing the damage done by the Germans in the early days of the war.

Professor Simpson at the outset of his lecture referred to the changes that took place in the architecture of the time when the French cathedrals were erected as compared with the Romanesque style. He said that the walls, piers and arches, which in the early work were heavy, were made thinner, lighter, and more graceful, while at the same time they lost nothing in strength. The pointed arch was substituted for the semi-circular, not because it was considered more beautiful, but because it was stronger; it exercised less thrust, and, therefore, required less abutment. For that reason it was first used for openings on a wide span. In Romanesque churches the naves, as a rule, were covered by flat timber ceilings. In French Gothic churches the naves were always covered by ribbed stone vaults. The most characteristic trait of the French churches was their great height, and that necessitated a complicated arrangement of flying buttresses. In all the big French churches and cathedrals they had at least two tiers of flying buttresses, one above the other. A great advance took place in all detail, especially in figure sculpture and carving. Classic formulæ were discarded and there was a return to nature in a more realistic type of carving; and as illustrating this the lecturer had on exhibition casts of two panels taken from the inside face of the west wall of the cathedral at Reims. In the beginning of the thirteenth century, continued the lecturer, there was a development in window tracery. Before then most of the windows were single lights, with plain arched heads. They saw tentative efforts in the tracery at Soissons and Noyon, which reached its full development at Reims. Church building stopped in France at the commencement of the Hundred Years' War and consequently in the four cathedrals of Reims, Noyon, Laon and Soissons one could easily trace the general development of French Gothic architecture for nearly 200 years until it reached its prime just before the Hundred Years' War. Proceeding to deal with the history of Reims Cathedral, the lecturer said that the first church on the site was built in the fourth century. That was destroyed by fire in the year 406 by the Vandals, as the Huns that came from Germany were commonly called. They burned the church, sacked and destroyed the town, and murdered the Archbishop on the threshold of the church. During the last four years history had repeated itself. The Cathedral was rebuilt more than once, altered, enlarged, and was finally burned down completely in the year 1210. The present Cathedral was begun in May, 1211. The architect was Jean D'Orbais, who died in 1231, and up to that time the choir and portions of the transept were finished. The names of the seven architects—although they were called master masons at the time—who followed d'Orbais were known. The most famous of them was Robert de Courcy, who died in 1311, who completed the west front and the four westernmost bays of the nave. The towers were added 100 years later. Reims was not only the first of the great thirteenth century cathedrals in France, but, in his opinion, it was also the finest. Its proportions were perfect, its detail beautiful, and without question it was the strongest built of the French cathedrals; if it had not been so it would have collapsed long ago owing to the hammering to which it had been subjected.

Describing the Cathedral in a lecture at the Royal Academy some thirty-five years ago, George Edmund Street said of it: "The solidity of the whole church is much in excess of that of many later buildings, but its justification is its perfect condition structurally and I may almost say the absence of a crack or settlement throughout its vast extent. I wish to see no finer sight than such an interior as I saw it yesterday, hung all round with precious tapestries of the fifteenth century, which set off and adorned its superb and dignified architecture in the very best way." What would Street say now? What they all said—that the brutes responsible for such vandalism should be punished, and at least made to pay for the damage they had done to the Cathedral and for the destruction of churches they had wrought throughout France and Belgium.

The lecturer then proceeded to describe the churches at Noyon, Laon and Soissons, and coming back to Reims he described its present condition. There was no doubt that the pinnacles and the flying buttresses had suffered very badly. The Archbishop's Chapel was a perfect gem of the thirteenth century French work, but it was now roofless, vaultless, and windowless. Unfortunately, at the time the Germans entered the place there was a big scaffolding at the west end of the church, and a shell set fire to the scaffolding, the flames caught the door, passed under it and set alight the straw on which wounded Germans were lying. The flames went upwards, passed through the openings in the towers and thence to the timber of the roof. Unfortunately there was also some scaffolding on the north side which caught fire. The result was that there was fire both inside and outside the Cathedral and the wonder was that it did not collapse completely. The stained glass windows had suffered very severely from shell shot fire and falling baulks of timber from the scaffolding, but later on all the glass was taken down carefully and packed away in boxes in the vaults of the Panthéon, Paris. It was possible to restore the glass to a great extent, and if that was done, round each restored piece of glass would be a halo, a reminder to all of what the town had suffered and a reminder of the men who for four years fought to defend the town which was sacred to Frenchmen, and the Cathedral which was one of the glories of the world. With regard to the other damage he did not think there would be any difficulty in restoring the roof. It was destroyed once before by fire in 1481. A great deal of the stonework had been damaged by fire, so much so that he read a little time ago that it flaked off when touched. A great deal of that stone-work had been restored before, and consequently he thought that a good deal could be done in the way of restoration again, and there was no reason why it should not be made as interesting and as beautiful as it was before the war. As regarded the figures on the Cathedral which had been damaged, he would leave them just as they were to show the result of German kultur; or, if they thought fit, they could be restored.

On the proposition of Sir Henry Howorth a hearty vote of thanks was accorded to Professor Simpson for his lecture.

"Demobilisers."

A scheme for the early dispersal on the cessation of hostilities, of demobilisers (*i.e.* officers and other ranks who are required, either in a military or civil capacity, in connection with the process of demobilisation) and of pivotal men (*i.e.* officers and other ranks who are required in a civil capacity for the purposes of national reconstruction) has been approved. Details are given in an Army Order dated November 9. The total number of officers and soldiers who will be registered as demobilisers or pivotal men will be notified by the War Office. The War Office and Ministry of Labour at the time of notifying to employers through pre-arranged channels the numbers severally allotted, will request that nominal rolls of the officers and soldiers whose early release is desired may be forwarded to the War Office. On receipt of such rolls the War Office will prepare index cards (Army Form Z32) in triplicate for each officer or soldier concerned. Further detailed instructions are given in the Army Order in regard to change of address, casualties and leave.

THE BUILDING INDUSTRY IN POLAND.

HARD as is the struggle for existence, at the present time, for most members of the architectural profession and building trades in this country, it is incomparably harder for our colleagues in Poland. But, undismayed by the dearth of opportunities for a more remunerative employment of their time, they concentrate their energies on laying the foundations for a more auspicious future.

One of the first corporate acts of the Polish architects during the war was the consideration of the problem of rebuilding the hundreds of Poland's towns and villages which have been destroyed. The Warsaw Architects' Circle held a number of meetings, devoted to the subject, which resulted in a series of recommendations on methods and means being issued to the public for its guidance. The Circle of Ferro-Concrete Engineers also gave the subject its earnest attention, and issued a separate report setting forth the advantages of ferro-concrete constructions and concrete in general. Since the publication of these recommendations, in the spring of 1915, further destruction and depredations have necessitated a revision of the whole subject. This was done in a very thorough manner at a special conference held last year in Warsaw, on the initiative of the Engineers' Association, and attended by great numbers of architects, engineers, and members of the building and allied trades and industries from all parts of Poland. A full report of the proceedings—containing verbatim renderings of the papers read, together with discussions, motions, and decisions—was subsequently published in book form.

The Warsaw Architects' Circle had brought together a collection of model designs for rural dwellings some time previous to the war, and shortly before its outbreak published them in the shape of a pamphlet. The purpose of the publication was to encourage among the peasantry a higher standard of hygiene and comfort, as well as to arrest the disfigurement of the country-side by the un-Polish and unsightly buildings which were making their appearance in constantly increasing numbers. The vast extent of the building operations to be foreseen as a consequence of the havoc wrought by the war necessitated the continuance of such endeavours on a greatly enlarged scale, and caused much wider circles to take an interest in them.

Never before have building matters attracted such general attention. In 1916 a "Citizens' Committee for the rebuilding of villages and towns" was formed in Cracow, which has published two books on the subjects indicated in its name. Since the beginning of 1917 it is also publishing a monthly magazine, entirely devoted to the study of the manifold problems connected with the rebuilding of Poland.

In anticipation of the ultimate introduction in Poland of municipal self-administration, which had long been promised by the Russian Government, but never materialised, a committee—of which the writer was a member—was formed in Warsaw some time before the war for the elaboration of new building by-laws to be substituted for the antiquated and quite unsuitable Russian regulations hitherto in force in the Kingdom of Poland. The committee continued its labours after the war broke out, and no doubt their results have long since been submitted to the new Polish Government, but, judging by occasional comments in the Polish Press, the committee's proposals do not appear as yet to have been adopted.

In February last the "Association of Master Builders of the Kingdom of Poland" submitted a long and detailed memorial on the needs of the building industry to the Polish Prime Minister. The following extracts are taken from a summary of the document's contents published in the *Kurjer Warszawski* (*Warsaw Courier*), of February 4th:—

"An urgent need is felt for the speedy creation of a State Department connected with the Ministry of Internal Affairs, to ensure that building activities in the whole country be carried out on sound lines.

"The duties of the Department should consist in:—

"The designing and superintending during construction of Government buildings;

"The elaboration of general building statutes to which the by-laws issued by the local authorities would have to conform;

"The direction of the rebuilding of the country;

"The control of building operations in areas outside the jurisdiction of the self-governing municipal centres;

"The laying out of towns, fixing building lines, planning garden cities, workmen's colonies and sanitary arrangements;

"The promotion of trade schools;

"The encouragement of the building industry and trades connected with it;

"The encouragement of institutions for financing building operations, such as building banks, building associations, and co-operative societies.

"In view of the necessity of proceeding with the rebuilding of the country, the enactment of suitable building by-laws is an urgent need which has been painfully felt for a long time, as the application to Poland of the general building regulations in force in Russia involved many senseless restrictions, and created much hardship on the one hand, whilst, on the other, it did not ensure sound building, or safeguard the interests of the building industry."

The association further declared that "one of the most urgent problems—on whose successful solution the progress of building activities and the rebuilding of the country on sound lines will, in a great measure, depend—is the devising of means for making accessible to the public the two most vital factors in the task, namely, materials and funds."

The problem of providing materials for rebuilding Poland will present greater difficulties than may seem likely, as even the country's timber resources—which before the war were such that large quantities of the material were annually exported—are fast disappearing. By January, 1917, the Germans alone had completely denuded of timber about 40,000 acres of forest land, besides which they had taken 3,200,000 trees from other sources in the Polish areas occupied by them. The saw mills in these districts annually handle 335,000,000 cubic ft. of timber, or four times the quantity permissible if rational exploitation were applied. And the timber of which Poland is thus being robbed is not used entirely to satisfy the needs of the German Army. By February 20 of last year 71,000,000 cubic ft. are said to have been applied to the reinstatement of property destroyed by the Russians in East Prussia. It seems a cruel irony that a country itself so urgently in need of rebuilding should thus be deprived of its resources to provide material for reconstructions in enemy territories.

Contrary to the opinion prevailing in England, building activities are not entirely at a standstill in Poland. Of course the work being done is only a fraction of the labours required, even only to restore what has been destroyed by the war, without taking into account the satisfying of many needs which have long clamoured for attention, and the increasing demands of a virile and growing community.

In the memorial mentioned above, the master builders complain that, in the Kingdom, "people are beginning to rebuild their property themselves, generally—in the absence of supervision on behalf of the community—in an aimless and irrational manner." They declare that "such activities are a menace to the future of our country, and if further tolerated will result in a general lowering of the standard of life, the deterioration of sanitation and protection from fire; in one word—retrogression." No doubt the complaint refers only to building activities in rural areas not under the control of the municipal building authorities.

The first Polish town to commence the work of reconstruction is Kalisz. It is situated close to the German frontier, and its inhabitants in 1910 numbered 49,000. The place is memorable as having been the first town to suffer bombardment during the present war, and this in spite of the fact that, being unfortified, it was unable to offer any resistance. Notwithstanding its defenceless condition and the entire absence of Russian troops, the shelling was repeated until the greater part of the town had been destroyed. What little of it remained was levelled during the subsequent Russian and second German advance.

At the beginning of the present year the German Government assigned the sum of 2,000,000 marks, or about £100,000 at pre-war rate of exchange, towards the rebuilding of Kalisz. Probably this was intended only for a first instalment, as it would be altogether insufficient for any adequate scheme of reconstruction, and it is not clear from what other source funds could be obtained. In any case, the work was begun forthwith. In a report on the progress made, the *Nowa Reforma* of May 2 states that "on the whole devastated area narrow-gauge railways have been constructed, which greatly facilitate the task of removing the *débris*. Many sites have already been completely cleared, and the erection of the walls has begun. It is worthy of mention that nearly all the houses being rebuilt will be constructed on much more practical lines than before, especially those surrounding the old market place, which, although their original archaic appearance is to be restored, will be provided with all modern improvements."

To procure a suitable design for the new town hall a competition was arranged, in which three premiums were offered, the first amounting to 6,500 and the second to 4,000 marks (nominally about £325 and £200 respectively). In addition to these, the municipality reserved the right to acquire further designs at the price of 1,500 marks each. The result was made known in July last, and the first and third premiums were secured by Warsaw architects.

Although the devastations in Galicia are not on anything like the gigantic scale of those in the Kingdom, the province has nevertheless suffered severely. But here the Austrian government has helped the peasants to rebuild their homes by supplying them with materials, and the Galician "Central Aid Committee," in January last, created a "Patronage of Building Associations," to render further assistance and give advice. The result, judging by a report in the Warsaw *Przeglond Wieczorny* of April 22, is deplorable—for the writer complains that the houses have been put up side by side, and have the appearance of rows of railway sheds. Instead of facing south, without regard to the direction of the road, in accordance with Polish usage, the new buildings face the road—a method the writer of the report considers purely German. He also condemns the un-Polish low roofs and the use of corner posts—the German method of constructing timber walls—instead of the Polish method of interlocking baulks. But worst of all is the inadequate thickness of the walls, which being four or even only 3½ in., will not afford the inhabitants of these houses sufficient protection during the winter.

It is to be hoped that the Allied peoples, having made the reconstruction of a really independent and powerful Poland one of their war aims, will also find means to assist the Poles in rebuilding their destroyed homes in a more suitable and substantial manner. Philanthropy is not required in the matter—indeed, if offered, it would no doubt be spurned by the Poles. The most reliable assistance is that rendered by those who are likely themselves to profit by their action. The rebuilding of Poland will necessitate the importation of enormous quantities of all kinds of building materials—fittings, ironmongery, machinery and plant—the very goods Great Britain should best be able to supply.

And as the restoration of a strong and prosperous Polish State is in our own interests, it is to be hoped that the Allies will see to it that the funds for putting it on its feet are forthcoming—by enforcing the payment from those responsible for the devastations of adequate compensation, and by means of loans.

A. E. GURNEY.

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ILLUSTRATIONS.

L.G.B. and R.I.B.A. Cottage Competition.

With the publication this week of the four first premiated designs for the S. Wales district in the L.G.B. and R.I.B.A. Cottage Competition we complete our series of the whole of the first premiated designs in the six districts as well as several others of the more noticeable ones

The Founders Company.

This illustration, from a drawing by the late George Aitchison, R.A., is given in connection with the article on the Company, which appears on p. 321.

Steel Dome, Capetown.

The illustration of the Steel Dome Capetown which we give this week is taken from *Steel Structures* the quarterly journal of the Steel Structural Section of the British Engineers' Association The steelwork for the dome which is an interesting piece of construction was manufactured and erected by Messrs. Redpath, Brown & Co., Ltd.

Studies for a Memorial.

These two illustrations are from sketches made by Mr. E. A. Rickards, whose essays in monumental design have always obtained a high regard, and are given as suggestions for a memorial with an architectural basis.

THE LONDON SOCIETY.

Old Southwark.

AT a meeting of the London Society, held at the Royal Society of Arts on November 4, Mr. F. J. Winkley gave a lecture on "Old Southwark." Having first touched on London Bridge and described the chapel dedicated to St. Thomas à Becket, and Non-such House, which were erected on the bridge, the lecturer passed to St. Olave's Church, the first reference to the edifice thus named being 1281. The present structure was built two hundred years ago, and will probably shortly disappear, as there is a Bill being promoted in Parliament for that purpose. Adjoining the original church stood formerly "a great house of stone and timber belonging to the Abbot of St. Augustine of Canterbury," whilst on the opposite side of the road is the church of St. Marie Overie, now the Cathedral Church of Southwark. Interesting details were given of the Borough Market, which dates from Saxon times. Mr. Winkley had a good deal to say about the famous old inns of the borough, including the "King's Head," the "White Hart," the "George," the "Tabard," the "Greyhound," the "Three Crowns," the "Queen's Head," and the "Catherine Wheel." It was in the form of the construction of these inns, in the yards of which the strolling players performed, which was the origin of the pit, private boxes, dress circle, and the gallery of the theatres as they were built later on. The only one of the old inns now remaining was the "George," and he suggested that it would be a worthy idea to take some steps to preserve the old building, either on its present site, or elsewhere, so that future generations might be enabled to see what the hostelries of our forefathers were like Nearly opposite the "Tabard Inn" once stood the Church of St. Margaret, but in 1540 it was pulled down and a town hall was erected on the site. In 1676 this hall was burnt down and another one was built which was adorned with the pedestrian figure of Charles II. In 1793 this hall was demolished and another erected in its place. The pedestal was removed to Three Crowns-square, where it was placed on a pedestal of brick and stone-work, the inside of which served the purpose of a watch box It was only that evening he had learned that the statue was purchased and was now in the United States at Boston. The Marshalsea Prison, made famous by Dickens in "Little Dorrit," was illustrated and described, as well as St. George's Church, outside which Southwark Fair used to be held. This church is drawn by Hogarth in his well-known picture showing the gallery giving way at the fair. Suffolk House, the Bench Prison, St. George's Fields, and Holland's Leaguer were dealt with. Returning by Bankside, the lecturer touched on the theatres which existed in Shakespeare's time and referred to the "Falcon Inn," which stood near the Swan Theatre and was at that period "the most considerable inn" in this part of the county of Surrey. In Zoar-street is the meeting house where John Bunyan used to preach. In the Bankside locality were also the Bear Garden and at one time the Pike Gardens. The site of the old Globe Theatre is now occupied by Messrs. Barclay, Perkins & Co.'s brewery. At the time the brewery was occupied by Mr. H. Thrale, Dr. Johnson used to visit a great deal, and Mr. Winkley observed that it is remarkable that at two such distant periods as the times of Queen Elizabeth and George III this place should have been frequented by persons so eminent in the annals of English literature as Shakespeare and Johnson. Winchester Palace and Montagu Close were also referred to. With regard to the former, Sir Thomas Wyat broke into it in 1554 and destroyed the library, whilst the latter place is closely associated with the discovery of the Gunpowder Plot. The latter portion of the lecture was devoted to the Cathedral Church of St. Saviour, which is the third largest church in the Metropolis. Undoubtedly a church existed on the site in Saxon times, and was probably destroyed by the Danes in the tenth century. In 1106 it was reconstructed by William Pont de l'Arche and William Dauncey, two Norman knights, as a monastery for canons regular to the Order of St. Augustine, and the church was built in the Norman style. In 1207 it was partly burned down. About 1228 Peter de Rupibus founded the Church of St. Mary Magdalen, which was built on the east side of the south transept and was used as a parish church. The nave was also reconstructed by him and altered to the early English style—the round arches giving way to pointed. In 1273 the building being still unfinished, the Archbishop of York granted an indulgence of thirty days to all who should contribute to the Church of St. Marie. It was known by that name till the sixteenth century. when it was changed to St. Saviour. The transepts were next built, the south transept probably about 1400. During the reigns of Richard II and Henry IV the perpendicularstyle of architecture was introduced, fair examples of which are shown in the transepts. In 1469 the roof fell in and a lighter roof of wood was built. In 1520 the magnificent reredos was erected by the Bishop of Winchester, and the upper stages of the tower were built about the same time. In 1621 and 1628 the church, to quote the vestry records, was "in many parts of it repaired; all the north side of it strengthened and beautified with a substantial and very artificial rough cast, while the other side was plastered and whited." As a matter of fact, the plastering has proved a benefit, for it preserved the stone and covered up many beautiful specimens of work which would otherwise have been destroyed, and which in restorations in the present day are being continually brought to light. In 1703 very extensive alterations were made. From 1764 onwards the church was terribly neglected, till in 1815 it was almost a matter of calculation as to how long it would last without falling. In 1818, however, steps were taken to repair the building. Happily, some public spirits in 1886 conceived the idea of restoring the church to its original beauty.

EXHIBITIONS OF THE WEEK:

The Royal Society of British Artists at Burlington House. Drawings of Oxford at the Twenty-one Gallery.

WE have already noted in these columns the transference, under the special stress of war conditions, of the annual winter exhibition of the Royal Society of British Artists from its home in Suffolk-street to the hospitable shelter of the Royal Academy at Burlington House.

The first four rooms at Burlington House have been placed at the Society's disposal. In the first two rooms, which are given up to oil-colour work, we find a charming figure study by the Royal Society's President, Mr. Solomon Solomon, R.A., of "Psyche" from whom a winged Love is escaping; though the students of the story of Apuleius or its many later versions might object that this diminutive urchin, who wings away from the lovely girl, is more a suggestion of Love than the actual lover of the legend.

John Muirhead's landscapes ("Avenue with Rustic Figures") are attractive here, and Frederic Whiting, in a "Portrait," shows clean, fresh colour and good drawing. The "pointellist" treatment is quite a permissible and effective method of introducing light into the canvas, and appears here in the work of Harry Fidler; as well as in Claude Barry's nocturne of the Cornish sea, which comes together well at some five yards distance. For Mr. Fidler's "Blue Day" we might suggest "Cows" as an alternative title, and the same would apply equally well to his "Study of Light," which, however, is far less effective. In fact, unless handled with care, this method is like to result in muddy indefiniteness, instead of radiating light; and this danger finds an example here in the "Sheepfold" of Mr. Padwick, where the sky seems to literally rain mud upon the huddled sheep. Mr. Carline's "London from Hampstead" is ambitious and successful, and Robert Morley's "Autumn 'mid the Birches" is entirely to be praised.

The water-colours here in the two south rooms number more than 300; it is only possible to select some examples. Among these Percy Lancaster's "Blackberry Gatherers," near Mr. Edward Riley's "Sunset on the Rocks," shows easy fresh handling in both paintings. Mr. Riley's "Brilliant Day" would be excellent, but for its title—it just fails to suggest strong sunlight.

Mr. Lewis Powles, in his Italian scenes ("Amalfi, Bordighera"), is full of poetic charm, and Leonard Richmond, both in oil and still more in pastel, rich in colour. Vivian Rolt, Ernest Haslehurst and John Littlejohn are to be mentioned last. The first of these has an art based on the best traditions of British water-colour in his Sussex landscapes. Littlejohn has an individual style of great brilliancy ("August in Sussex" and "The South Coast"), in which some medium which suggests tempers seems to be used; and the same remark will apply equally to Mary Simpson's very effective study of "Bosham Mill."

We reserve till next week our fuller notice of an admirable series of drawings of Oxford exhibited from last Saturday week at the charming little Twenty-One Gallery in the Adelphi.

MEETINGS.

MONDAY, *November* 18.

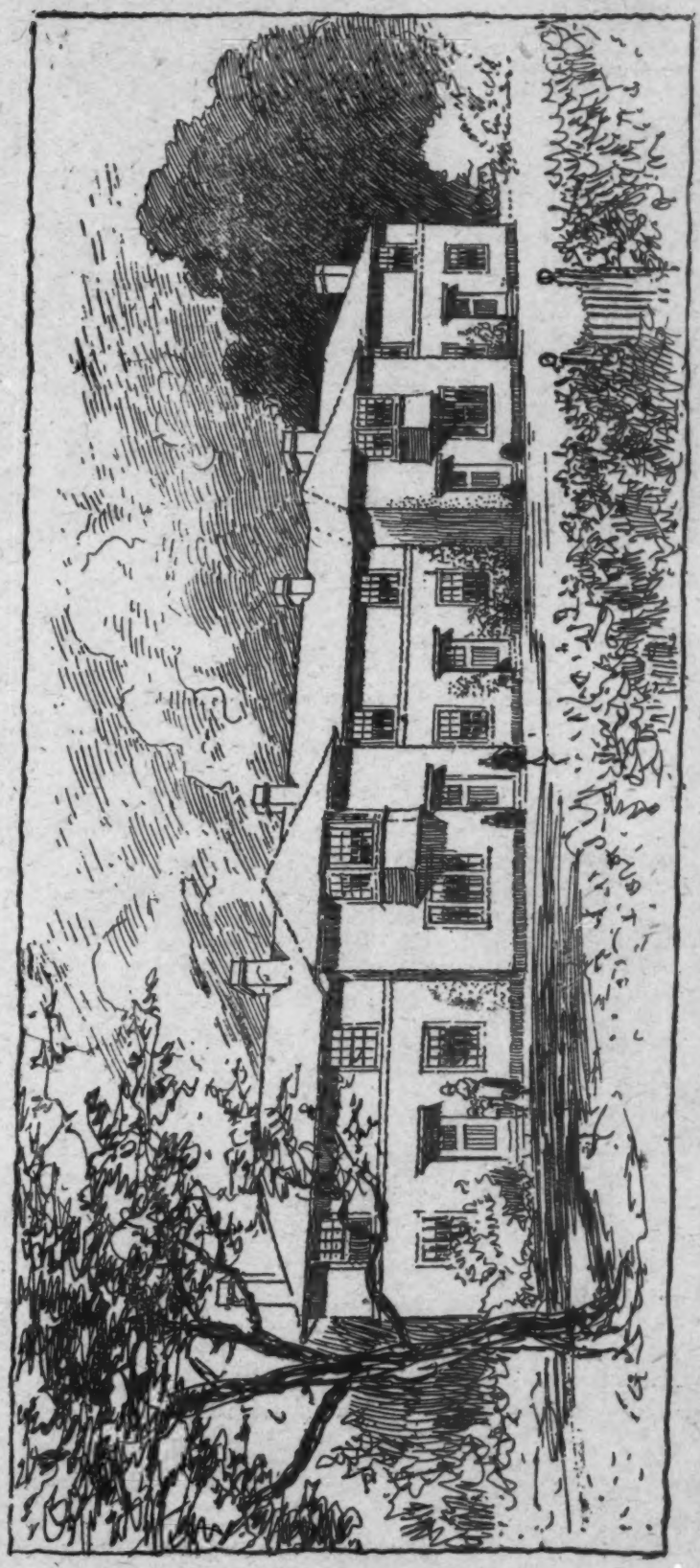
The Royal Institute of British Architects.—Messrs. William Dunn and W. Curtis Green, on "A Chepstow Housing Scheme." 5 p.m.

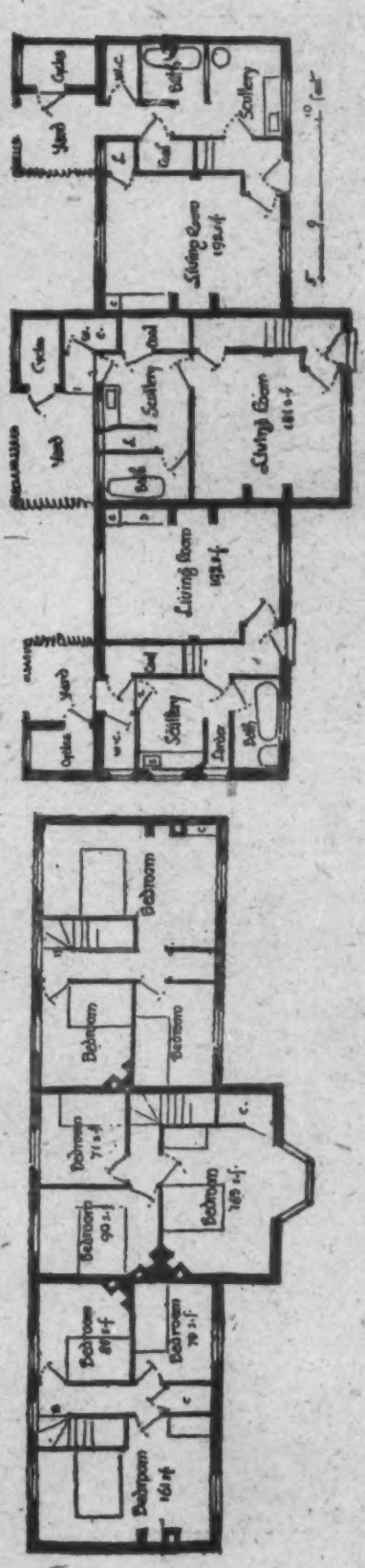
TUESDAY, *November* 19.

Institution of Civil Engineers.—Mr. R. Batson Joyner, C.I.E., M.Inst.C.E., on "The Tata Hydro-Electric Power-Supply Works, Bombay." 5.30 p.m.

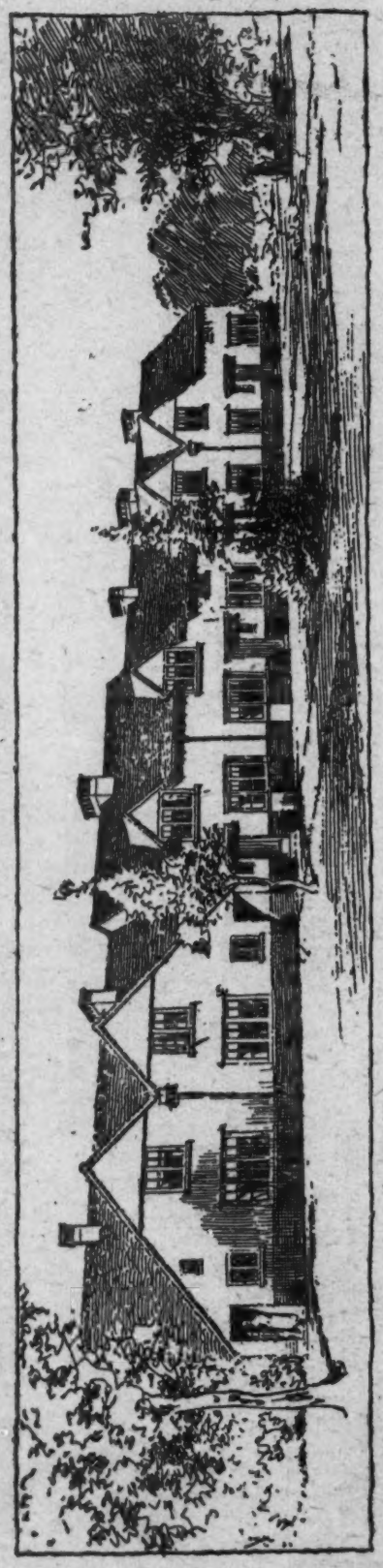
WEDNESDAY, *November* 20.

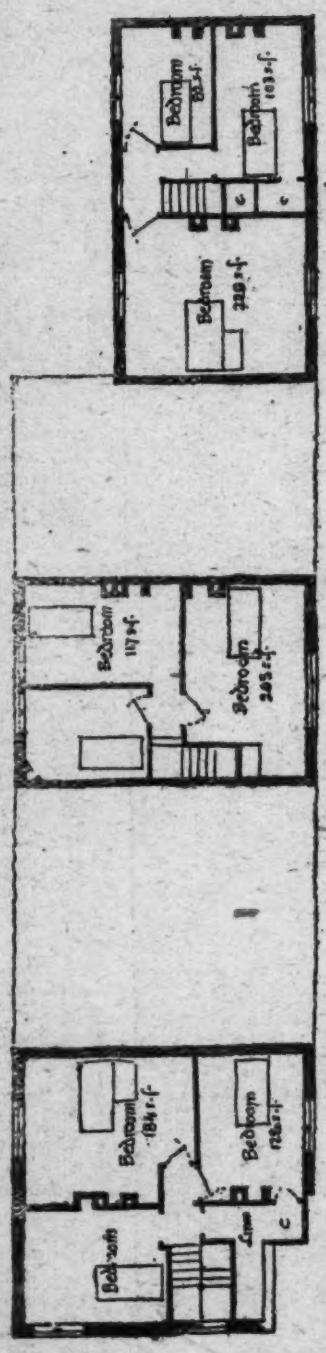
Royal Society of Arts.—Inaugural Address of the 165th Session by Mr. Alan A. Campbell Swinton, F.R.S., Chairman of the Council, on "Science and the Future," 4.30 p.m.





L.G.B. AND R.I.B.A. COTTAGE COMPETITION (SOUTH WALES).
CLASS A.—FIRST PERMIATED DESIGN, BY MR. J. A. HALLAM.

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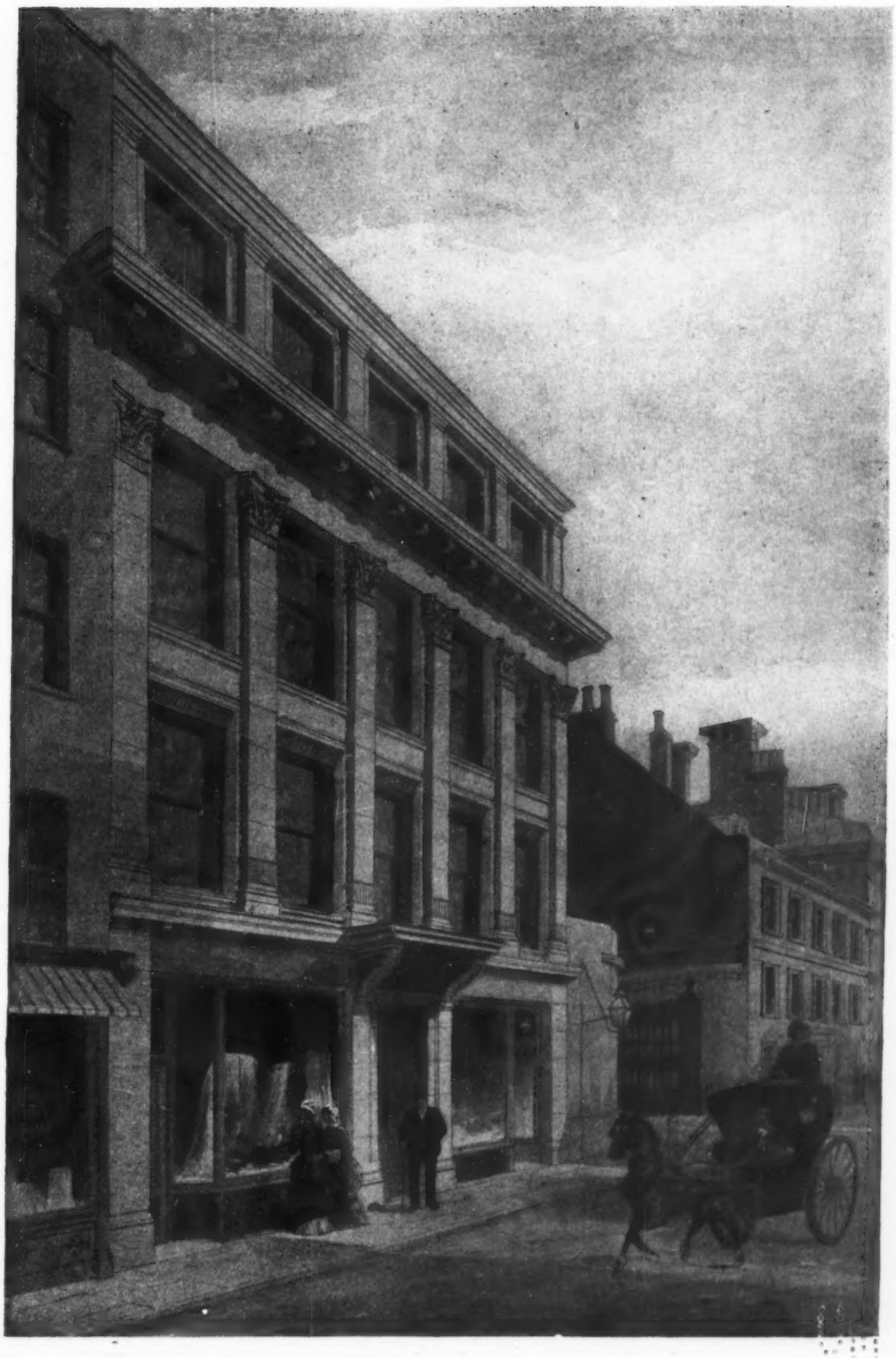


FOUNDER'S HALL, ST. SWITHIN'S LANE, E.C.

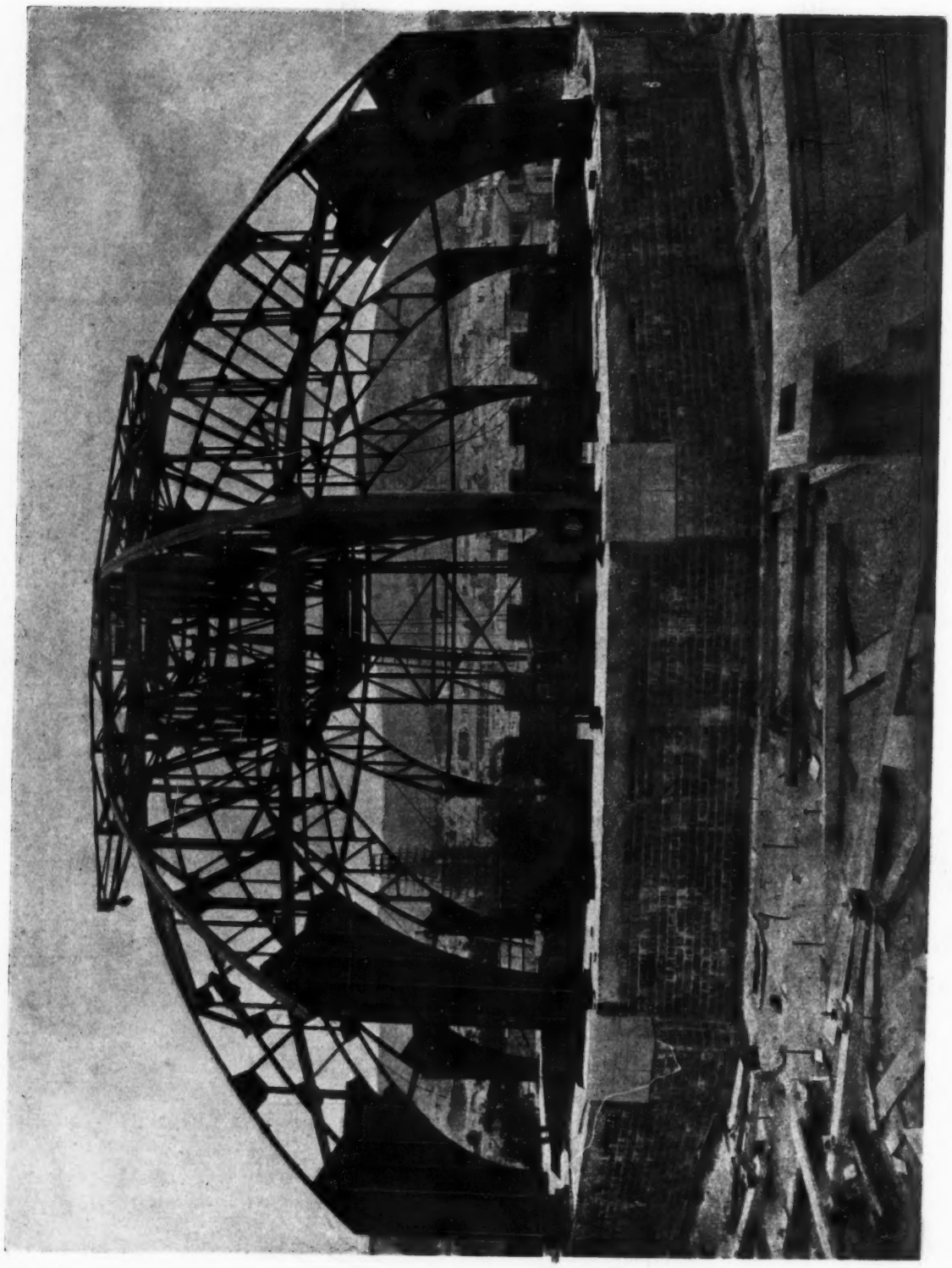
THE LATE GEORGE AITCHISON, R.A., ARCHITECT.

STUDY FOR A MEMORIAL.

By Mr. E. A. Rickards, F.R.I.B.A.

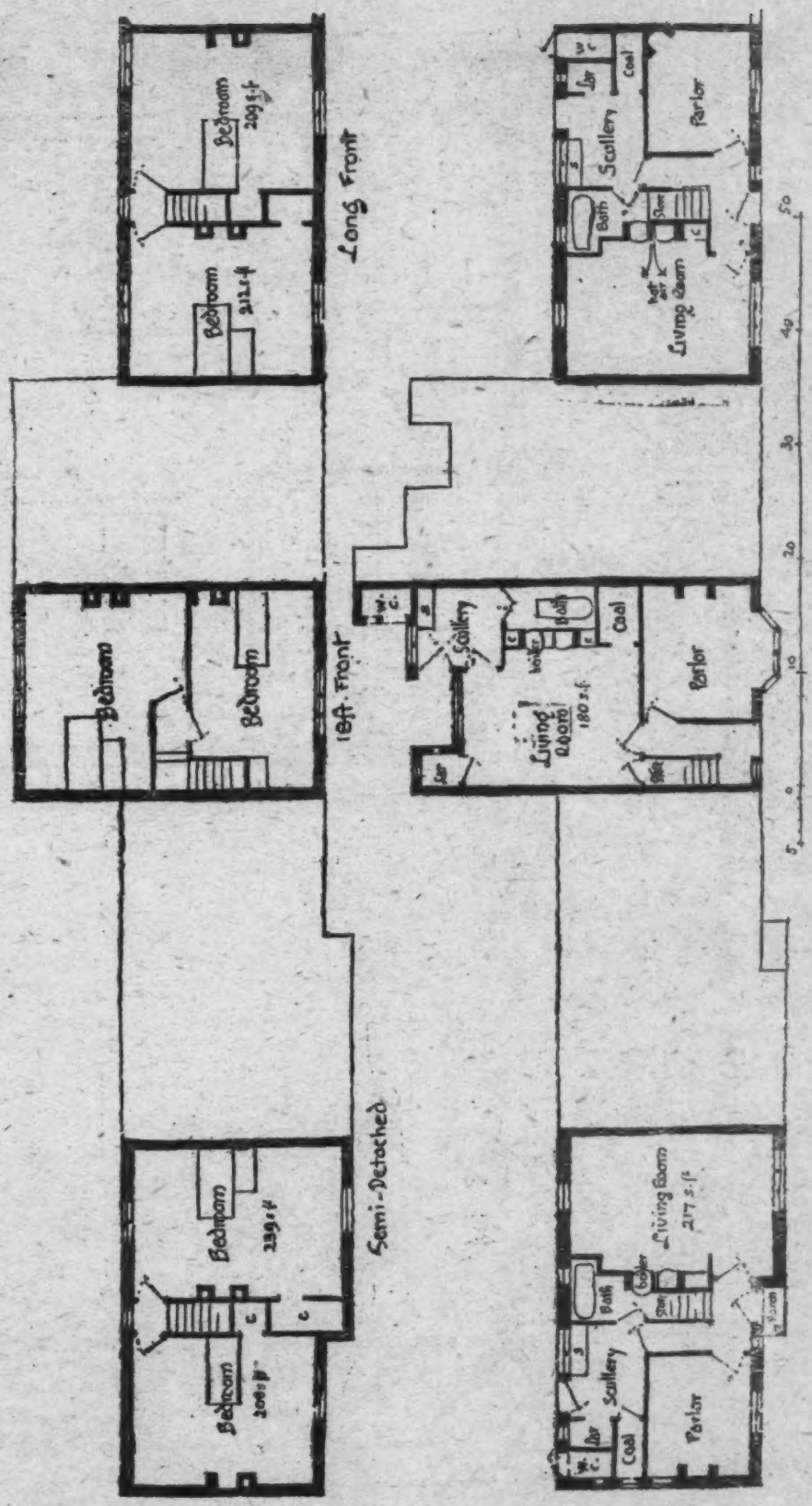
STUDY FOR A MEMORIAL.

By Mr. E. A. Rickards, F.R.I.B.A.



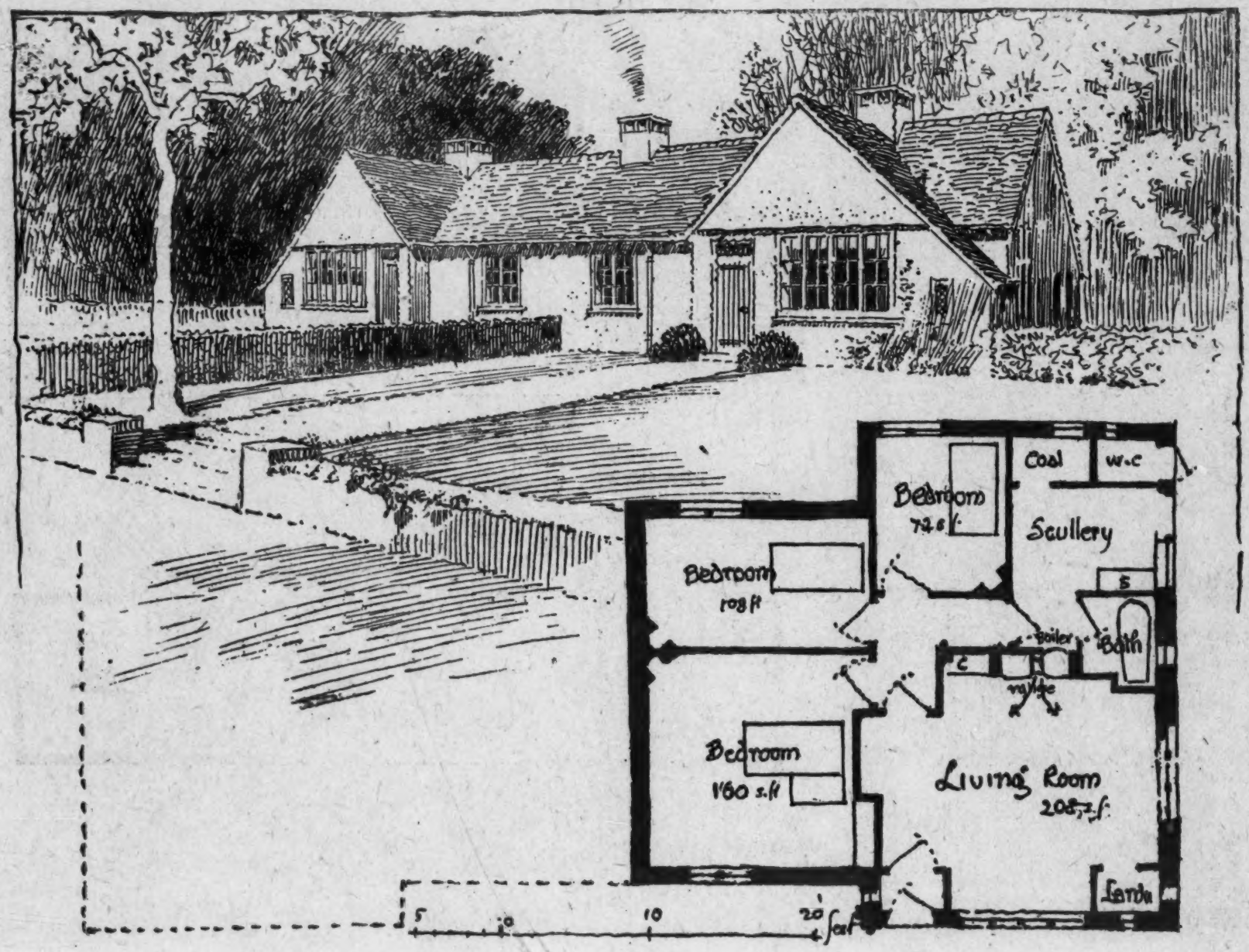
STEEL DOME, CAPETOWN.

From "Steel Structures."



L.G.B. AND R.I.B.A. COTTAGE COMPETITION (SOUTH WALES).

CLASS C.—FIRST PREMIATED DESIGN, BY MESSRS. JOHNSON & RICHARDS.



L.G.B. AND R.I.B.A. COTTAGE COMPETITION (SOUTH WALES).

CLASS D.—FIRST PREMIATED DESIGN, BY MESSRS. JOHNSON & RICHARDS.

A NATIONAL ARCHITECTURE.—VII.

By W. R. Lethaby.

SOME MINOR ARCHITECTURAL FACTORS.

Columns and Capitals.—The obsession of the styles of architecture has blocked the way to any understanding of the historical development of structure and ornament. Hundreds of volumes must have been written and even read on the "orders" and their "proportions," but few ever asked themselves what they meant by orders and proportions. The Greeks maintained in their temple architecture a primitive fashion of building with stone posts and stone beams. They were very conservative about it, because a temple was a holy thing. However, two main fashions of post and beam building were developed, one in Hellas and the other in Ionia—the Doric and Ionic. When the age of change set in the capitals of the latter type were further enriched, and thus was produced a variety called the Corinthian.

Stone columns would naturally be square, like the pillars of the temple of the Sphinx, but from the old custom of making posts of wood or bunches of reeds tied together the round form became typical for columns, and of course it is convenient notwithstanding the waste of fully a quarter of the stone. Where the material is costly, the square form with rounded angles may be suggested as the most natural and rational form. It is usually assumed that the capital originated as an expanding bearing block interposed between the top of a post and that which it supported. The capital does not appear to have been introduced in this way in reality, but it came to be that in the end, and that may be taken as some reason for its persistence. I do not know, however, of any general account of columns and capitals considered as bearing blocks. The best is in the "Stones of Venice." In a natural history of capitals, while considering only simple forms set above circular shafts, it would be shown that they differ in fundamental form both in plan and profile. In respect to plan there are: (A) the all circular group; (B) the all square group; (C) the bowl and abacus group; (D) the transformation group, in which the round form below changes into a square above. A, many Gothic capitals are of this form, and several Egyptian examples approximated to it. B is a small series; the Ionic capital in its simplest form has no circular member below. C, an important group—Mycenaean, Doric, Byzantine, Romanesque. D, is also an important series—Corinthian, Byzantine and Gothic. Practically all the Gothic capitals with carved foliage under a square abacus derived from Corinthian capitals. In respect of profile they may be convex, concave or straight. It is extremely interesting in experimenting with these conditions to find how one rediscovers many well-known forms, especially of the Byzantine and Norman types. It is almost impossible to devise a C form which has not been anticipated in former researches.

Here again it is revealed to us how "design" was a matter of progressive experiment—the working out of a principle.

Cusping and Tracery.—The cusping of an arch is usually supposed to be a Gothic characteristic, but its origin and development is an excellent example of a continuity of architectural thinking which passes all style boundaries. In late Hellenistic days the cockle shell became a favourite decorative element. Several of the beautiful fountain niches covered with mosaic found in Pompeii have borders of real shells. Then a custom arose of sculpturing a single scallop shell on the curved head of a niche. The best recorded examples were found in some tomb-niches at Cyrene. From this again was developed the custom of carving the whole of a niche-head into a shell-like form with the crinkled edge following the arch. This custom may have originated at Alexandria, the home of so many decorative expedients, for on a Coptic stuff at South Kensington niches containing pairs of figures are shown with cusp-like edging to their arched heads. Then in Byzanto-Arabic art we find arches with a series of lobes cut into their surfaces. The central part of the scallop shell with its radiating ribs has here disappeared. This fashion was in turn taken up in the West, and tre-foiled or many-foiled arches were common in Moorish and late Romanesque art. These foiled arches in turn became the germ of all the varieties of cusping. Thus this seeming essence of Gothicness comes from the edging of a cockle shell through Hellenistic art.

We conceive of tracery as the subdivision of spaces—most usually arched window-heads—by curving bars of stone, or rather slabs of stone cut away into the form of bars. The apertures thus formed were generally enriched by cusping at the edges. We now name the main classes of patterns thus produced geometrical, curvilinear, and perpendicular. These terms, however, are used as descriptive of historical phases, and are hardly understood to connote principles. Tracery as it existed historically was developed by a sytematic exploration of what might be done by associating circles with sub-arching. This theme was almost exhausted when, by reversing the curves of the upper part of the sub-arches, flowing forms were introduced, and many windows were wrought as continuous "all-over patterns" cutting out against the main arches as they might. Three windows in the east cloister walk at Westminster Abbey are excellent specimens of this scheme. These curved nets passed into straight lined nets. While the making of tracery was an advancing art, it was a definite exploration of what variations might be made with given elements. It was a mason's game. During the Gothic "revival" thousands of windows were designed and wrought in imitation of the Gothic, but I never heard of any one worrying about any principle in the matter, beyond the principle of make believe, as if building was an art of mimicry.

The idea of tracery as a constructive expedient is not necessarily "Gothic" nor bond nor free; once developed it belongs to all the future; but it can only be resumed as a principle. This principle of subdividing space by piercings or panellings may have many points of departure besides that of sub-arching. Directly we get rid of the "period arch" and design the window aperture for its purpose, we may fill its whole field with panels, lattices, and interlacings in never ending variety, in pierced marble, or stone slabs, or cast lead, or even cast iron. Directly we experiment with elements, unhindered by the style conception, interesting forms and arrangements *make themselves*. It is this "making themselves," the finding out what is involved in a principle, that matters. Such designs have a law of life, whereas the cleverest imitations of the Gothic are necessarily born dead. In that kind indeed the best are the worst. There was a fashion in American slang of calling realities "effects"—"Busy street effect," or "Domestic hearth effect"; this diction exactly suits architectural stylism.

The Lattice and Balustrade.—The ancient Greeks must have made use of wooden lattices like those we use in gardens painted green. We know this because we find them copied in pierced slabs of marble. The great development of lattices, however, was made in Hellenistic Egypt. These patterns were carried forward by the Copts and spread to the West, where they were found in Celtic MSS., and on Saxon crosses. They have hardly been an element in Western art for a thousand years, but they have maintained their life all over the East. As wood was scarce and poor in Egypt the custom arose of framing it up in short pieces, yet so as to cover a surface as a door or ceiling. In this way most ingenious patterns were produced.

The knot of interlacing thread work is also another universal pattern idea suitable for window fillings. All these expedients are ours to use, for they embody universal principles. Theophilus, the twelfth century writer on art, speaks of devising the lead-glazing of windows in knot patterns, and several such survive at Salisbury and York. These interlacing patterns were probably taken over from earlier pierced slabs. In any case, in lead-glazing we have a great number of patterns formed of lattices and interlacings.

Another architectural element which has sprung up almost self made under the tool is the baluster. Wherever turning with a lathe has been practised, baluster-like forms have been produced. Many rude short columns of the late Roman age found in Britain are baluster shafts. Table legs and railings of such turned work were much used in the Hellenistic East and got into Coptic, Arab, and Gothic art. It was probably from a wooden source that the Renaissance builders adopted the balustrade, which was perhaps the element most special to their school of art. Under their hands balusters became too swollen and opulent, but the turned post of wood or stone may be considered available for all time.

Mouldings.—Nothing, I think, is more mysterious to the young student than mouldings. Mouldings in the main have been imitations in wrought stonework from other more primitive means of building. When we specify that a handsome plaster cornice, enriched with dentils, is to be "run" around a room, we are ordering that an imitation in plaster should be set up inside our house of a Roman stone cornice, which itself was imitated from a Greek marble cornice, and that was a developed copy of the wooden eaves of a temple. The reeding of columns seems to have been imitated from actual bundles of great reeds used for building in Egypt. Fluting was, I think, a variation of reeding. A roll moulding at an angle came from a stiffening roll in such reed-built structures. The complex mouldings of the early Ionic base originated in the fact that such bases were turned in a lathe, and it seems impossible to keep off from ins-and-outs in turning.

Situations which may now, perhaps, justify moulding in stonework are: a protective projecting course to throw off the rain (a cornice), the chamfering or rounding of an angle, the recessing of a door jamb. Such projections, roundings, chamferings and recessings are carried further by delicacies of workmanship into mouldings, and these in turn may be developed still further with pattern carving or sculpture. The most elaborate groups of Gothic arch mouldings grew out of beaded angles on successive recessed rings.

Having proper members how shall they be moulded? We readily think of mouldings as elegantly associated curves and straight lines "designed on paper." These pretty profiles, however, have to be cut in stone. How are they cut in stone? Stones are gained and marketed in *square blocks*, and the,

Class D.—First Premiated Design, by Messrs. Johnson & Richards.

desired forms have to be found in the stone by laborious chipping with a chisel. A mason reduces the original square blocks by degrees so as gradually to approximate to the form desired; he will, perhaps, recess half the stone several inches, then the bottom part may be cut away to the chamfer plane and part of the top projection may be turned into another chamfer. On these planes he may now begin to find his curved profiles, gradually adding members, refining and finishing. The art of moulding cutting is to maintain as much of the stone block as possible, and to expend as little effort as may be for the required purpose. No one but an experienced mason should really "design" a moulding for stonework. But even if we would let him, he could hardly do so now, for the style superstition has filtered down to him, and, it is pathetic to think, he seems to believe it. When we again get a reasonable way of doing building work, we shall be able to call on the trained skill and insight of the operative artist, and thus gain by the concurrence of many minds a depth unknown to us. In the meantime it must be remembered as well as may be that all sculpture and all mouldings have to be found in the block. At the present time, perhaps, only slight modifications of the simple planes may be recommended: the rounding of top and bottom edges or the use of large shallow curves. Save as much as may be on hack mouldings and spend it on some work of art by a free man. In Roman and Byzantine marble work we find many craftsmen's expedients for avoiding waste effort. For instance, a wide marble architrave will often have its fasciae pitched at an angle so that the several mouldings really come up to the face of the slab, and the same is true of panel mouldings.

In dealing here with some of the more ornamental constructive factors, I have wished to bring out the continuity of their evolution, and to show that design is experiment.

PLANS FOR PEACE.

An important document dealing with demobilisation has just been issued. The Ministry of Munitions, in a general official notice to contractors, sub-contractors, and workpeople engaged on work for the Ministry, explains the way in which production is to be reduced, and announces the amounts of the unemployment donation for workers of various ages.

We take the following from the notice issued by the Ministry of Munitions:—

1. The great task before the country is the transformation of industry from war to peace. This necessarily involves the disturbance and dislocation of industries and workshops, and very large numbers of workpeople will have to change their employment and in many cases their present abodes. This must be faced. In order, however, that the change may be made with the least possible hardship and the minimum of waste, exceptional arrangements are necessary. The Government intend to recognise in these arrangements the good work which has been done by munition workers in helping to bring the war to a victorious conclusion. . . .

The following instructions are hereby issued to all factories and firms engaged on work for the Ministry of Munitions:—

(i) There should, so far as possible, be no immediate general discharge of munitions workers.

(ii) All workers, however, who desire to withdraw from industry or to leave for any reason, and all workers who can be absorbed elsewhere, should be at once released. . . .

4. The adoption of half time may cause unavoidable discharges, but every effort should be made to minimise unemployment, utilising employees for a short period on labouring and clearing up work. In allotting this work preference should be given to workpeople who are ordinarily dependent upon industrial employment.

5. All persons discharged, or claiming release can obtain free railway warrants for journeys from the place of employment to their homes, or to places where they have found new employment. The warrants will be issued through the Employment Exchanges. In cases where large numbers are required, warrants can be obtained by the employers from the Employment Exchanges for issue at the works.

6. Directions will be given at an early date with regard to war munition volunteers, Army Reserve munition workers, and other special classes of workers.

7. The foregoing instructions are issued for the guidance of contractors until individual firms receive further and particular instructions from the Ministry of Munitions. The loyal and cordial co-operation of all employers is confidently invited.

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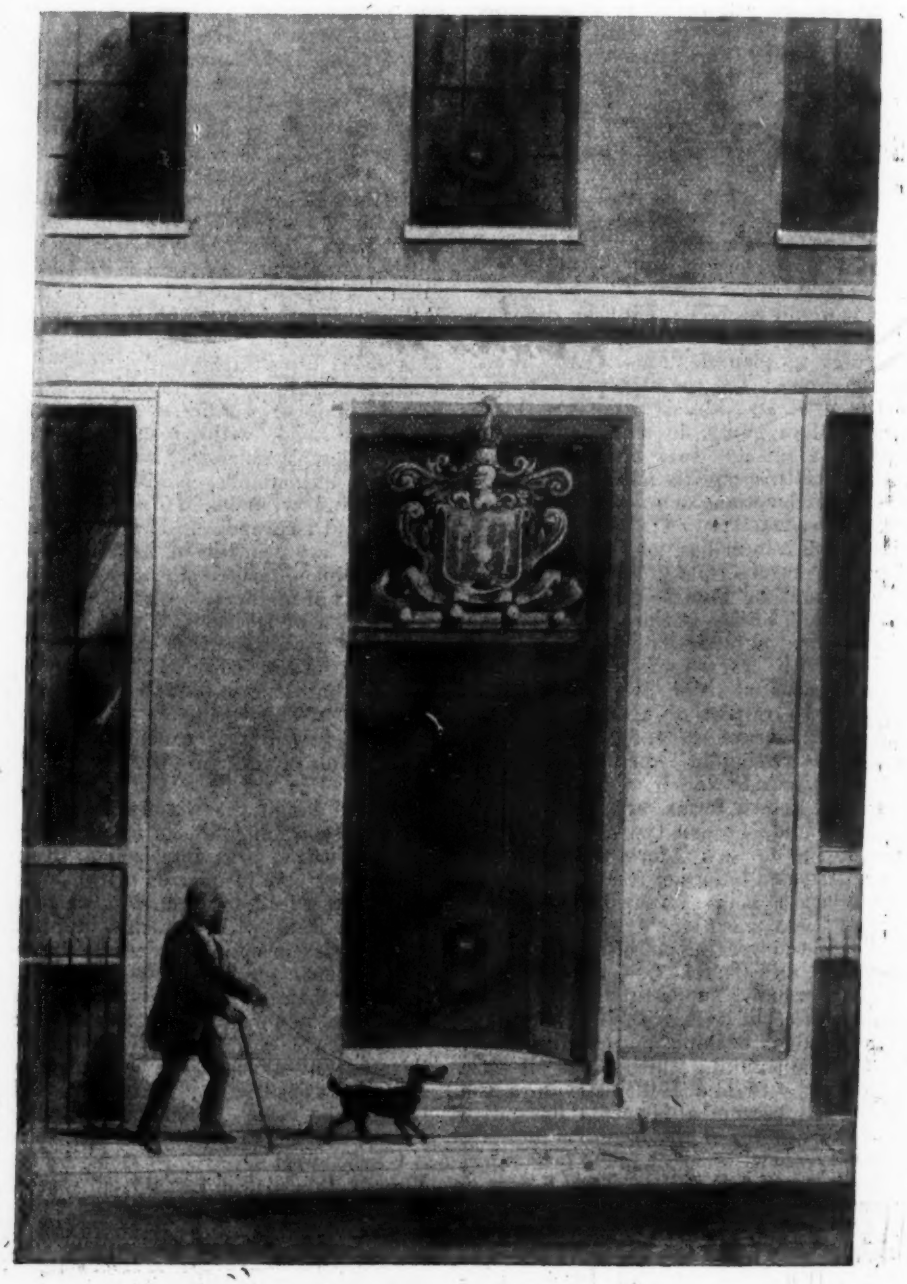
1. To provide for the abnormal period that must immediately follow on the cessation of hostilities, the Government have adopted as a temporary measure the following general scheme of non-contributory unemployment donation which has been laid before them by the Minister of Reconstruction, in agreement with the Minister of labour.

2. The broad conditions of the scheme are that this unemployment donation shall remain in force for a period of six months from a date to be announced shortly by the Government, and that the benefit can be drawn for a maximum of thirteen weeks during that period in cases where unemployment cannot be avoided. The other conditions and necessary safeguards will be explained by the Minister of Reconstruction in his statement to Parliament, and he will then also deal fully with the scheme that will be applicable to the demobilised members of H.M. Forces. . . .

4. It is necessary that industry should be rapidly transformed to peace conditions in order to provide permanent and reproductive employment for the civil workers and for the fighting men returning from the war. The proposals outlined above are solely intended to bridge over the inevitable period of dislocation. It must be emphasised that the non-contributory scheme is a purely emergency measure. While it is operating the existing compulsory unemployment insurance scheme will remain in suspense so far as benefits are concerned. Contributions will, however, still be payable in order to build up a reserve of benefits for contributors when the temporary scheme comes to an end. Thus the special interests of contributors are fully safeguarded; in the meantime, the Government are pressing forward with their scheme for general contributory insurance, which will be based on permanent considerations, and must not be prejudiced by the non-contributory scheme here announced.



Old Founders' Hall.

. . The . .

City Companies and Their Halls.*

No. 31.

The Founders' Company.

THE Founders are among the older guilds of the City of London, and are known to have been in existence in the thirteenth century. In 1365 a petition of "the good men of the misterie of ffounders of the cittie of London" to the Mayor and Aldermen complained that false work was made and sold, so that candlesticks, buckles, straps, and other work, when exposed to fire or great strain, broke or melted, to the peril of those using such goods and the slander of the City and the mistery, and prayed that ordinances to regulate the craft should be enacted. This was done, but the jurisdiction given was made subject to the authority of the City, and for purposes of search a sergeant of the Chamber was sworn with the masters of the mistery. In 1472 some kind of reconstruction of the guild took place, and further ordinances issued in 1489 contained regulations respecting masses, burials and alms, the carrying and hawking of goods, and apprentices.

The Founders' craft was concerned throughout the greater part of its history with two objects—the making of copper and brass goods and with the regulation of weights, but it is not until 1587 that the sizing of weights is first mentioned, the mistery being then empowered to stamp its mark upon every brass weight used. In 1590, arms were granted, and the "Company of the Art and Mistery of the Founders" was incorporated in the name of two Wardens and the Commonalty with perpetual succession, but its full incorporation was not effected until 1614, when it received a grant from James I, under the title of "The Master, Wardens and Commonaltie of the Misterie of ffounders of the Citie of London." The body included all English makers of brass weights, melters and workers of brass and copper wares, and all annealers within a compass of three miles round the City, and power was given to make ordinances agreeable to the laws of the land and the liberties of the City, saving the rights of the Pewterers. It was laid down that when the Company's Sizer had marked weights with the Ewer they were to be sealed, if of avoirdupois standard, at the Guildhall, and if of troy standard, at Goldsmiths' Hall. The Company yearly appointed two sizers and two searchers. In 1878 an Act of Parliament was passed dealing with weights and measures, but the Company is still entitled to stamp brass weights which, when stamped, are valid throughout the kingdom.

Considerable friction over the subject of weights arose between the Founders and the Plumbers, but the last body were deprived of their powers in 1599.

The constitution of the Company was somewhat autocratic, the Court possessing great powers and the bulk of the members little, which led to considerable friction from time to time, and culminated in a "Humble Petition of Divers of the Comonalty of the Company of Founders to the Honble. Committee for Corporac'ons and reviewing Charters" in 1652.

The petitioners made a long series of complaints, the quaintest of which is of the Clerk's method of reading out the terms of the Charter,

"but in reading thereof the Clerk did wilfully emitt the reading of the priveledges which to the Comonalty did belong, and justified himself until the Comonalty did make the truth thereof appear by the Coppie of the said Charter."

The Clerk's misdeeds do not seem to end here, for in another clause the petitioners both denounce him and complain of the support he receives from those in authority.

"That they do countenance the Clarke of the Company who is a mocker and scoffer at all manner of godliness and holiness and goodness in conniving and passing over his unfaithfulness . . . . without any controulment at all, and also counterfetteth the Goldsmiths mark to seal Troy weights."

In the answer made the Master and Wardens rebut the charges, and in dealing with the allegation that they distribute the charitable funds of the Company unfairly, say—

"5th. That we never did any such thing but gave our legacies to the poor, miserable and honnest. That peradventure of the false grevances *one* may be in parte true for divers of the scandalous and black-mouthed people and their parents have tasted and felt of the said guiftes and legacies, and soe do we think they may be misemployed."

As is usually the case, the records do not show the outcome of what may be termed a very pretty quarrel, in which we may assume that neither of the parties was entirely justified.

The immediate neighbourhood of St. Margaret's, Lothbury, was the seat of the Founders' industry, and in Stow's Continuator (1633) the following reference is made to the craft.

"This street is possessed for the most part by Founders, that cast candle sticks, chafing dishes, spice-mortars and such like copper or latten work, and do afterwards turn them with the foot, and not with the wheel, to make them smooth and bright with turning and scratching (as some do term it., making a loathsome noise to the bye-passers, that have not been used to the like, and therefore by them disdainfully called Lothberie."

Both the "candlesticks of Lothbury" and the copper of Lothbury are alluded to by Ben Jonson in his comedies.

The Founders possessed a Hall situated between St. Margaret's Church and Coleman-street, in Founders' Hall-court, now known as Founders-court, the site for which was acquired about the year 1534 by eighteen members of the mistery, and after the Fire the Company rebuilt on the same site. Dr. Hughson in 1806 described it: "Besides being appropriated for the business of the Company, it is rented to a respectable congregation of Protestant Dissenters." It had, at an earlier date, been described as a "cauldron of sedition."

The Company finally let it to the Electric Telegraph Co., and it is now occupied by Messrs. Brown, Shipley and Co.

A meeting place was acquired in St. Swithin's-lane, the members of the Court subscribing the necessary funds, and this was rebuilt in 1877, at a cost of about £8,000. Founders' Hall consists of a simple block of office accommodation, the ground, first and second floors of which are let, offices for the clerk being re-

Founders' Hall: Cup, date circa Henry VIII.

. The following articles on the City Companies have already appeared in our pages:—the Mercers', March 31, 1916; the Grocers', April 28; the Drapers', May 12; the Goldsmiths', June 9; the Skinners', July 14; the Merchant Taylors', August 4, the Haberdashers', September 1; the Salters', October 6; the Ironmongers', October 27; the Vintners', December 8; the Clothworkers', December 22; the Barbers', January 26, 1917; the Dyers', Feb. 16; the Brewers', February 23; the Leathersellers', March 30; the Pewterers', April 20; the Cutlers', June 1; the Bakers', June 15; the Wax Chandlers', June 29; the Tallow Chandlers', August 10; the Butchers', September 7, the Armourers' and Brasiers', September 21; the Girdlers', October 12; the Saddlers', November 9; the Apothecaries', December 7; the Painter Stainers', January 11, 1918; the Curriers' on February 15; the Innholders', March 29; the Coach and Harness Makers', August 16; the Coopers' will be given shortly; and the Fishmongers' at a later date.

served in the basement, while the third floor forms the company's court room. Externally, it is a piece of careful and refined design, pleasing in spite of its utilitarian character; the architect employed was the late George Aitchison, R.A., an elder brother of the present Master, Mr. W. J. Aitchison, and a member of the Court for many years.

The arms of the Founders, granted in 1590 by Robert Cooke Clarencieux, are thus described:—

"The field Azure a Lauerpott betwene two taper Candelstickes gold, and to the Creast vppon the healme on a wreathe golde and azure feryrys fumes proper out of the cloudes proper two Armes, the hands cannat the sleues azure, holdinge a payer of Closing tonges takinge holde of a meltyng pott proper manteled gules doubled silver. Motto: God the only Founder."

The motto suggests a curious play on the meaning of words. It is at one and the same time an expression of piety and a contradiction in terms as applied to a company with many members.

The Company now carry out a good deal of useful work of a technical kind. They have held competitive exhibitions in 1880, 1898, 1900 and 1910, and given valuable money prizes, medals, and certificate, and the freedom of the Company, for work of great merit.

Old Founders' Hall has been much altered and remodelled, and has been deprived of all historic interest. The plan of Salters' Hall, which we gave in a former issue, shows the site of the present Founders' Hall.

FEDERATION OF BRITISH INDUSTRIES.

The annual general meeting of the Federation of British Industries was held recently at the Connaught Rooms, Great Queen-street. The retiring President, Sir Richard Vassar Smith, in the course of his Presidential address, remarked that the Federation had now commenced the third year of its existence and continued to grow and thrive. It had nearly doubled its membership and considerably more than doubled its strength. A year ago it represented 581 members and 78 trade associations; to-day, the membership was 951, in which number 164 trade associations were included.

Sir Richard Vassar Smith then proposed that Sir Vincent Caillard should be the President for the coming year. This was seconded by Mr. Dudley Docker, and unanimously agreed to.

Sir Algernon Firth proposed the first resolution, impressing on the Government and country the necessity of maintaining the principle of private ownership of capital and encouraging the free flow of capital into industry, and of preserving and encouraging that spirit of individual enterprise and initiative which was the vital principle of national life. If the incentive to individual effort was removed and replaced by any system of governmental or communal control, the death knell of the prosperity of their industries would be sounded. The interests of the community were best served by the fullest opportunity being afforded for the free play of individual talent. They wanted individual effort encouraged, security for their business and not meddlesome interference and that support of their workers which they could secure if left alone.

Mr. H. R. Armitage seconded the resolution, and it was carried unanimously.

Mr. Dudley Docker moved a resolution emphasising the supreme importance of British industry and urging upon the Government the necessity of recognizing the importance of industrial interests and of consulting the representatives of employers no less than of employed. But industry must recognize that it owes a duty to the community and in pursuance of this duty the Federation would endeavour by co-operative and other means to raise production to the highest level, both of quantity and quality, to reduce expenses of distribution and the cost of goods to the consumer and to ensure the maintenance of industrial peace and the enjoyment by all those engaged in industry of the fullest share practicable in the creation and distribution of wealth. It was for manufacturers to see that the industrial system did not lead to results which were not socially justifiable. In the past they had been careless of this aspect of the case, and they must recognize that many of the results of the old system were not justifiable. In these respects there must be an alteration, and they were all prepared to do their best to make the necessary alteration. The Federation afforded the best means for obtaining this result.

The resolution was carried unanimously.

A resolution was moved by Mr. T. Biggart, urging the Government so to regulate and apportion taxation as to encourage the flow of capital to industry and increased production; the provision of adequate reserves to meet the cost of renewals and extensions and the maintenance by manufacturers of adequate stocks.

The resolution was seconded by Sir William B. Peat and carried unanimously.

Mr. F. W. Gilbertson moved a resolution which affirmed the importance of improving education both primary, secondary and adult with a view to enriching the mental life of the nation and developing individual character and initiative, and enabling every citizen to take his proper place in the activities of the community. Education would be more important in the future, especially of the young men, because so many educated men had died in the war. There was no one who was so well able to form an opinion as to the success of the educational methods as an employer, because they saw the results. Hitherto, there had been no method by which the employers could express their point of view. They had had to do with certain aspects of it, but with general education, which would influence the character of the younger generation, they had had little to do.

The resolution was carried unanimously.

Bailie John King, of Glasgow, moved a resolution on "Housing," urging the importance of securing in all housing schemes the greatest amenity in regard to lay-out and design, of avoiding, as far as possible, the segregation of classes, of allowing for the provision of adequate facilities for recreation and education, and providing such accommodation in each house as would enable the inhabitants to live in decency and comfort, and to turn their leisure to profitable account. It was a great pity, he said that it required this great war to open the eyes of the people as to the position of the labouring classes. Employees could help greatly in the matter, but it would be important to create an atmosphere among the labouring classes favourable to the improvement, for there was a spirit existing at the present time which regarded with suspicion everything proposed to be done for them.

Mr. Godfrey C. Isaacs seconded the resolution, which was carried unanimously.

Sir Robert Hadfield, Bart., moved a resolution dealing with technical education and inviting the co-operation of the Government, organised labour and educational authorities, with a view to improving technical and higher commercial education, to promoting the employment by manufacturers of students who had taken advantage of the courses provided, and to securing the introduction into industry of an adequate and regular supply of suitably trained personnel. He pointed out the crying need for a building in London to house technical societies and organisations which at present were houseless. He hoped something in the way might be done in connection with the big building for housing this Federation which they all had in mind. It would greatly help on technical education to have a proper technical centre where they could meet together.

The resolution was carried unanimously.

Mr. Frank Moore moved a resolution affirming that the Federation viewed with grave concern the recurring instances of industrial unrest and recorded its approval of the general principles underlying the first report of the Whitley Committee, and inviting the group and sub-group committees to consider how far these principles could be applied to their industries. When the report came out he was much prejudiced against it, but on fuller consideration of it he was converted to the main idea of the scheme. Industrial councils, he felt convinced, led to greater harmony between employers and employed. Their interests were the same, and with the good feeling the report would bring about there should be no fear of any ill result.

After some discussion the resolution was carried unanimously.

Mr. Max Muspratt moved that, with a view to consolidating the industries of the country and reducing the speculative fluctuation in prices, members were recommended, as far as possible, to draw their requirements of manufactured products from members of the Federation.

This was seconded by Mr. W. P. Rylands and carried unanimously.

Mr. H. R. Armitage moved a resolution impressing upon manufacturers the great advantage to be derived from co-operation and the organisation of industry through trade associations. The resolution was seconded by Mr. Harry Allcock and carried, as was also the last resolution, approving the general lines of the policy of the Minister of Reconstruction in forming joint committees of employers and workpeople to advise the Government on reconstruction questions, but emphasising the necessity of adapting this policy to suit the conditions of the different trades. At the luncheon, Dr. Addison, in reply to the toast of "The Guests," dealt with the subject of demobilisation and said the first business of the Government would be, as quickly as possible, to re-establish the great basic industries of the country. They must expedite the restoration of those industries as much as possible. The great problem was the supply of raw material, and they had already arranged with the Shipping Controller a programme of shipping, directed to bring over as quickly as possible the raw material which the industries required. The Ministry of Shipping was sanguine as to being able to provide, at quite short notice, the necessary tonnage. There would have to be some control after peace, but they wanted that the industries themselves should undertake that. The Government would cease control as soon as they could safely do so, and they wanted the industries to then take over the control that might be necessary. He described the action taken by his Ministry in setting up interim reconstruction committees in the trades. The resolution passed by the Federation on Reconstruction exactly expressed his own policy. He formally accepted the Federation's offer of co-operation.

Mr. G. J. Wardle, Parliamentary Secretary of the Board of Trade, said that this was the first time he had ever addressed a conference of employers, and he thought the occasion was a unique one. He had been more used to addressing trade union congresses. He hoped the time was not far distant when, instead of having separate congresses of employers and workers, they might have joint conferences. Everything must be done to bring employers and employed together, and he was glad to see that many of the resolutions passed by the Federation emphasised this. They must have self government of industries, but not with labour shut out. If the Kaiser must go, the autocrat of industry must go too. Employers would have nothing to lose, and the employed much to gain. They had to get rid of old party divisions and the old class distinctions. Already there was more sense of equality, and if that was carried out to its true conclusion, then he had great confidence and hope in the future. The Board of Trade was doing, and was ready to do, all it could to promote the interests of British industry. They could not go back to the position before the war, and he was sure they did not want to.

FUEL ECONOMY IN PRIVATE HOUSEHOLDS.*

By A. H. BARKER, B.A., B.Sc., Wh.Sc.

Lecturer in Heating and Ventilating Engineering, University College.

HOWEVER, the experiment, though not as complete as might be wished, did conform to the figure given.†

The indication is that a gas fire is just about twice as efficient in the scientific sense as is a coal fire, and this figure is confirmed from other sources, which I need not now discuss.

The variation in intensity of a coal fire, and the constancy of the gas fire are the outstanding features of difference.

The appearance is, of course, all in favour of the coal fire. Most persons find considerable fascination in the constantly varying shape of a coal fire. The outstanding advantage of the gas fire is the rapidity with which it can be brought into full action.

Rapidity of Effect.

In another experiment the gas fire attained practically its maximum intensity within a quarter of an hour. The coal fire only reached the intensity of the gas fire after a period of about one hour. That advantage, together with the cleanliness and convenience is the principal feature in a gas fire which justifies its use from an economical point of view.

When a gas fire is turned out its heat disappears almost at once. Three minutes after being turned out there is for practical purposes no heat coming from it. A coal fire, of course, cannot be suddenly turned on in this way, nor can it be suddenly turned out, and the heat shut off. The heat from a coal fire dies away very gradually. For the continuous heating of any room, therefore, the coal fire has a very great advantage over the gas fire in its superior economy, while for occasionally used rooms, and rooms which it is necessary to prepare for occupation within a short time, a gas fire can hardly be dispensed with, because a coal fire attains its maximum heat so slowly, and each time it is lighted it involves somebody in a great deal of tiresome and dirty work.

The electric fire has every conceivable advantage on its side except that of expense. This, however, is so enormous that electric fires can be ruled out as a serious competitor of any kind of heating for all persons except very wealthy ones.

Heating by Water Radiators.

The advantages of a radiator system of heating are where a constant and steady heat is required in a large number of rooms for long periods. A radiator system of heating is even worse than an open fire in its unsuitability for sudden use. No radiator system is of any account within less than five or six hours of the time of first lighting the fire. The heat gets up slowly, and dies out slowly, but for a continuous supply of heat combined with economy a radiator system has absolutely no competitor. It is greatly cheaper than any other method of heating whatever.

It is not beautiful; indeed, some of use think it is extremely ugly, although a radiator can be stowed out of sight. We don't want an engine in our drawing room if we can help it. But for its economy and convenience it has no competitor.

Anthracite Stoves.

For a compromise between an open fire and a radiator system perhaps the anthracite stove would be very hard to beat. It can only be employed where there is a flue, that is, in front of what would otherwise be an open fire. Although it burns a very expensive fuel—anthracite—it is much more economical and much more effective for producing a general feeling of warmth all over a room than is an open fire, essentially because it heats the air, which is only a secondary effect of a fire. It distributes about 30 per cent. of the heat in the fuel as convected heat and a further 15 per cent. as radiated heat, making about 45 per cent. efficiency. Some forms of stove have an efficiency as high as 60 per cent. or even more. It can easily be worked so as never to go out. Thus the warmth of a room heated by an anthracite stove may be continuous day and night throughout the winter. It can be readily controlled, and is reasonably clean, and easy to manipulate. It is surprising to my mind that the anthracite stove has not gained more headway than it has. It is true it is very much inferior in appearance and in cheapness to the open fire, and is far from being as hygienic or as healthy or as pleasant, inasmuch as the open fire conduces to very liberal ventilation, which an anthracite stove does not.

Hygienic Effects.

The great disadvantage of the anthracite stove is in fact a hygienic one. Its high surface temperature causes a great difference between the ceiling and the floor temperatures of the room in which it is fixed. The air on the floor of a stove-heated room is commonly many degrees colder than the air of the upper part, and this is a very grave hygienic disadvantage and tends to make persons occupying the room liable to colds and chills.

It has the disadvantage of being very uniform, which modern physiologists tell us is a hygienic disadvantage. It produces, too, a slight smell of burnt air, probably due to the charring of the minute organic particles of dust floating about in the air of a room, a radiator having a similar disadvantage, except when its temperature is kept very low.

Contrary to the popular belief, neither a radiator nor an anthracite stove has the slightest effect on the "dryness" of the air, except in so far as warm air will absorb more moisture than cool air. They do not remove any moisture whatever from the air.

Heating by Naked Flames.

The heating of a room by naked combustion of gas or oil labours under the principal disadvantage that it is apt to make the air of the room smell, be it never so slightly, of the combustible employed. With oil this is practically always the case. No oil stove is without more than a suspicion of a smell, The human nose can detect incredibly minute portions of odoriferous gas in the air of a room. One could detect with certainty an amount of oil vapour or gas in the air of a room probably one thousand times smaller than the most refined chemical analysis could find it. It is utterly impossible to detect by chemical analysis the presence of petroleum vapour in a room which smells strongly of paraffin.

Thus, if there is the minutest escape of unburnt gas into the air of a room, its presence can certainly be detected by the nose, especially by a person coming fresh into the room from the outside. Gas, too, is poisonous and dangerous when incompletely burnt. Any gas fire which produces any suspicion of a smell ought to be ruled out at once for that reason alone. But a good and well installed modern gas fire does not allow the smallest trace of any of the ingredients of gas to escape unburnt, or the products of combustion to escape into the air of a room.

Even to burn completely such fuels naked in the air of a room tends to make the atmosphere too humid to be either pleasant or hygienic. It charges the atmosphere to some extent with carbon dioxide, though these two ingredients of breathing air are no considerable disadvantage except in excess.

This is exactly what is done in the ordinary use of what are called "Gas radiators." The explanations which some of the makers give to the public about the "condensation of the fumes," and so on, is pure nonsense. The ordinary gas radiator does not increase in any way whatever the amount of heat given off by the combustion of the gas, which is precisely that corresponding to its calorific value. Nor does it alter in any respect the amount of the products of combustion which come into the room. These are exactly what is produced by the combustion of the gas—no more, no less.

If naked gas flames are to be used for warming a room, the least objectionable way of doing it, is to use one of the reflector stoves, which convert a considerable portion of the total heat of the gas into radiation, the remainder being allowed to pass into the room as convected heat.

The chief advantage of the use of naked gas flames to heat a room is that it has a real efficiency of 100 per cent., reckoned on the heat in the gas and not on the coal from which it is produced. By no other means can the air of a room be so rapidly and conveniently raised in temperature. A room can be very rapidly heated by gas in this manner, and when it is due for occupation the naked gas flames can be turned out, and the temperature maintained by a gas fire, or even a coal fire. It is very doubtful whether there is any hygienic disadvantage in the presence of the products of complete combustion of gas in the air of a room.

Such are the differences as they appear to myself between the different methods of heating. It is impossible to say that any one of them is better than any other, for it all depends on the circumstances.

To summarise, the cheapest method is the water radiator. The most pleasant for a sitting or living room is the much abused open fire. Probably the most generally convenient is the gas fire, and, except for its enormous expense, the electric radiator would undoubtedly displace all other methods of heating, as it has every advantage which any other method has.

For continuous and uninterrupted heating to be effected with relatively small disturbance and expense, it would be hard to beat the anthracite stove, and for heating which may be introduced anywhere and at any time, the portable oil or preferably the charcoal stove, if charcoal is procurable at a reasonable price. Generally speaking, then, we may say that for office heating and similar work radiators are almost indispensable; for a sitting room an open fire, if the labour difficulty can be solved; for a little-used room, the gas fire; and for the millionaire's boudoir the electric radiator. The cost of these various means can be deduced from what has been already stated.

(To be continued.)

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* Continued from page 302, November 8.
† See last issue.

Manchester Opera House.

Sir Thomas Beecham has offered to build an opera house for Manchester. Sir Thomas stipulates that the Corporation shall provide a site of not less than 45,000 square feet, and reserves the right during his lifetime to make appointments and to draw up a constitution for the future government of the opera house. Upon the suggestion of the Lord Mayor, it has been decided to make hearty acknowledgment of the offer, and to refer it to a special committee to be appointed.

THE BUILDING TRADE.

THE INDUSTRIAL COUNCIL FOR THE BUILDING INDUSTRY: EDINBURGH MEETING.

THE quarterly meeting of this Council was held at Edinburgh on October 29. Eighty-one representatives attended. Mr. James Storrs, J.P., occupied the chair. A number of apologies for inability to attend were received. The notice convening the meeting was taken as read and the minutes of last meeting adopted.

Arising out of the minutes a report was submitted of the steps taken by the deputation appointed by the Council to confer with the Government Departments concerned re the schedule of certified occupations, and that for protected trades. The report was approved and the Administrative Committee was requested to give further consideration to the case of the labourers, which did not appear to have received adequate treatment in the latter schedule.

Correspondence was reported from the Ministry of Labour.

A report was received from the deputation appointed to confer with the Scottish Operative Unions as to certain points about which they desired information in connection with the question of their adhesion to the Industrial Council.

The chairman expressed pleasure at the presence of representatives of those Unions at this meeting, and said that they would have home rule through the Regional Council which it was proposed should be set up for Scotland.

A draft constitution for the formation of Regional Councils was then submitted and Mr. Macfarlane formally moved its adoption. Mr. Matthews seconded. Mr. Renshaw took exception to the areas defined for the Regional Councils and moved that the draft be referred back for reconsideration in this respect, he desiring an increase in the number of areas. Mr. Anderson seconded and other members supported the amendment.

Mr. Bradshaw supported the resolution and emphasised the importance of avoiding any confusion of areas and that the work of Regional Councils being entirely different from that of the Regional Federations, it was desirable that the former should have distinct areas. He also suggested the inclusion in the constitution of a provision that Regional Councils should report their minutes to the National Council.

Mr. Barron thought that there should be representatives from the Regional Councils added to the present direct representation on the National Council.

On a vote the amendment was carried, the Administrative Committee to report to next meeting of the Council.

Mr. Moffat suggested the Administrative Committee should also consider the advisability of enlarging the scope of provision (24) for the formation of district committees.

Mr. Foster suggested leaving the size of Regional Councils undefined, also that the question as to the advisability of including in Regional Councils bodies not national in character should have consideration.

Mr. Smethurst thought bodies not national in character ought not to be represented on Regional Councils.

Mr. Nicholls said the reference back of this draft was rather inopportune and suggested that leave should be given to existing Regional Councils to act meanwhile.

The chairman said the revised proposals of the Administrative Council would be circulated as soon as ready so that ample time could be given to their consideration.

Mr. Jones asked that a copy of the new proposals should also be sent to each member of the Council.

The amendment was then carried as the substantive motion.

Mr. Holloway moved that:—

"The following resolution from the London Building Trade Central Employment Exchange Committee be received, viz., 'That the Building Trade Industrial Council be requested to consider the proposal that statutory obligations be imposed upon employers to absorb disabled and unfit men.' Also that, 'Any resolution thereon be forwarded to the Resettlement Committee of the Ministry of Labour.'"

He explained that the resolution had been sent forward in order to ascertain the opinion of this Council. The casual nature of the building trade made any system involving the compulsory employment of disabled men impossible. The Committee was, he thought, in favour of a voluntary arrangement. The building trade having contributed a larger proportion of its personnel to the Army, would be liable to the necessity of absorbing a larger proportion of disabled men than most other industries.

Mr. Jones moved that:—

"This Industrial Council, whilst recommending that employers should do everything possible for disabled men, considers that the Government should make proper provision for all men who have been disabled in the country's service."

Mr. Smethurst seconded and said there was a tendency now to leave others to shoulder this burden; while the industry would be willing to do all it can, the real liability should be borne by the Government.

Several members supported the resolution.

Mr. Macfarlane opposed the motion. He thought the suggestion was designed merely to get the support of employers and not to relieve the State. He feared that without such co-operation an undesirable and exceptional class would be created.

Mr. Kennedy supported the resolution and said that really disabled men ought not to be tortured with work, but should be compensated by the nation.

Mr. Wilson agreed with the resolution. If regulations were made under which employers had to employ disabled men, the employers would have to exact correspondingly trying conditions from the men. He thought that special industries should be set up for such men and should be provided nationally.

Mr. Easten said the discussion appeared to be going wide of the question and moved as an amendment that:—

"While recognizing that it is the duty of all employers to give every consideration to disabled and unfit men, this meeting considers it undesirable to impose any statutory obligation upon employers."

Mr. Macfarlane seconded.

Mr. MacDougall deprecated any action at present.

Mr. Cameron thought they should be wary of passing any resolution that day. It was the partially disabled men whom we must keep in mind—the wholly disabled men should be compensated by the State; the others need and want work, not idleness, and should have employment provided. We must not forget the promises made by employers to take men back—that being a moral obligation still.

Mr. Jones, having replied on the debate,

Mr. Easten's amendment was dropped and the resolution carried, *nem. con.*

It was then moved, seconded and carried that the resolution be sent to the Ministry of Labour and the Ministry of Pensions.

It was further agreed that the Administrative Committee be requested to take any further action which it might deem necessary.

A draft scheme of the Ministry of Labour Employment Department (M 111/6) for the release from military service of pivotal men in industry and commerce was considered.

Mr. H. Scott (Secretary of the Resettlement Committee) explained the scheme briefly and said that, provided the military situation permits during an armistice, the Army is prepared to allow pivotal men to come back. The help of the Council is desired in picking out such men, and the question is how that can best be done.

It was first desired to know how many men were wanted as pivotal men; later they would have to be specified and transmitted to the Resettlement Committee.

The Navy was also prepared to go as far as possible in the same direction; but in its case much depended upon substitutes being obtainable for the men released. It must also be remembered that some men are pivotal men for the Army and Navy as well as for industries.

Mr. McDougall moved:—

"That Circular M 111/6 be submitted to the Resettlement Committee of this Council with powers to proceed to give the information wanted."

Mr. Smethurst seconded.

Mr. Renshaw moved as an amendment:—

"That form M 111/6 be distributed at once by the Council's joint secretaries to the National Associations represented on this Council, with requests for the numbers and names of pivotal men to be sent to the Resettlement Committee of the Industrial Council without delay."

Mr. Sutherland seconded.

On a vote the amendment was lost and the substantive motion was then carried.

It was agreed that the Resettlement Committee should meet on Monday, November 4, at 11.30 a.m.

A communication from the Joint Committee of Employers and Operatives in the Birmingham District, requesting the Council to consider the means to be adopted in the building trade with a view to the economy of fuel and light was considered.

Mr. Jones moved the reference of the letter to the Administrative Committee, and Mr. Otley seconded.

Mr. Wilson moved, as an amendment: "That this Council take no steps upon the communication read."

Mr. Anderson seconded.

On a vote the amendment was carried, and, there being no further amendment, became the decision of the Council.

Mr. Renshaw moved: "That an Education and Apprenticeship Committee be established, to consist of twenty members with power to add by co-option, and to report direct to the Council."

Mr. Otley seconded.

Mr. Cox deprecated the setting up of this Committee, urging that already the various trades have education committees at work, and moved as an amendment: "That the importance of formulating schemes of technical education and apprenticeship be recommended for consideration to the Branch Trades attached to this Council."

Mr. Butterworth seconded.

Mr. Bruce said that similar committees existed in Scotland.

Mr. Foster saw no conflict between the resolution and the amendment—the proposed committee would not prejudice existing work.

Mr. Wilson called attention to the other important questions with which the proposed committee would have to deal.

Mr. Nicholls pleaded for a more liberal outlook in the matter of education for the building trade.

Mr. Barron suggested that the terms of reference should be carefully considered; breadth of education is a more essential need than mere technical training. Apprenticeship in Scotland was a disgrace to both employers and operatives, and a thorough revision of the system was needed.

Eventually, the amendment having been withdrawn, the motion was carried.

The following members were subsequently elected to form the Committee:—

Employers.—Messrs. W. J. Renshaw, J. M. Macfarlane, J. H. Cantrill, S. Smethurst, E. Bruce, R. B. Chessum, A. J. Forsdike, J. P. Cox, G. G. Kirk and D. Anderson. *Operatives.*—Messrs. T. Barron, R. Mardell, F. J. A. Webb, A. Gardner, T. H. Otley, J. A. Gibson, J. Boulger, R. Wilson, T. Jones and J. Conlin.

The terms of reference were left open; but the documents supplied to the Council, containing the Institute of Builders' scheme of apprenticeship for the building trade and matters suggested for consideration by the Committee and received from the Education Department, were remitted to the Committee for consideration.

Mr. Bradshaw moved that the Council:

"Consider the advisability of requesting (*a*) that the membership of the Resettlement Committee be increased, in order to enable that body to consider ways and means of accelerating the provision of houses for the working classes after the war; (*b*) that the Resettlement Committee be given power to co-opt on the Committee additional members from the outside."

Mr Foster seconded.

After a short discussion by way of explanation, the motion was agreed to, and the following additional members were appointed:—

Employers.—Messrs. C. Boot, W. Moffat, D. Anderson and A. Holmes. *Operatives.*—Messrs. W. J. Wentworth, W. J. C. Glover, J. Armour and F. Camm.

The chairman opened the consideration of the following item on the agenda:—

"Consider advisability of taking steps to carry out object 2 (*b*) (7), viz., the inclusion of all employers and workpeople in their respective associations, and resolve thereon, including the appointment of any committee or committees with their terms of reference," and said he was responsible for putting it forward as one of urgency and importance.

Mr. Foster said the Government had clearly indicated its opinion that all employers and operatives ought to belong to their respective trade organisations.

In some districts progress in that direction had already been made, but others were as yet too backward.

Various members raised points of difficulty which would have to be faced.

Mr. Renshaw spoke at some length on those difficulties, and questioned whether the time was opportune for this matter to be advanced.

Mr. Easten contended that the time was never more opportune, and traversed some of the difficulties raised by previous speakers. He recommended the Council to endorse the principle of the reference. Eventually, Mr. Macfarlane moved, Mr. Easten seconded, and it was resolved:—

"That the Council endorses the principle of object 2 (*b*) (7) and refers the question to the Administrative Committee to take into early consideration the necessary practical proposals for including all employers and workpeople in their respective associations, and to report thereon."

Mr. Bradshaw moved the following resolution:—

"That during the term of apprenticeship, the apprentice shall be required to take three examinations, called the Preliminary, Intermediate and Final, respectively. The first to be taken at the end of one-third of the term of apprenticeship, the second at the end of two-thirds, and the third six months prior to the termination of the Indenture. The apprentice must obtain a certificate of efficiency, without which he cannot be considered a fully qualified mechanic. The form of examination to be agreed upon by the employer and trade union concerned. Should an apprentice fail to obtain his certificate, he should be given facilities to take the examination a second or more times, if necessary at frequent intervals."

Mr. Renshaw seconded.

Mr. Haines expressed the view that apprentices should not be used for strike breaking.

Mr. Cameron thought the last sentence in the first part of the resolution needed to be carefully considered; many otherwise competent persons were not able to do well in examinations.

The resolution was agreed to.

Mr. Macfarlane moved the following resolution:—

"That the Administrative Committee be asked for a report upon the application of the principle of unemployment insurance in relation to the building trade, and with particular relation to the Hereford Award."

The motion was seconded and carried.

Mr. Jones moved that:—

"This meeting of the Building Trade Parliament heartily congratulates the Allied Armies and Navies on the magnificent results of their conjoint action and hopes that the results of their efforts will be the destruction of autocracy and militarism and the establishment of a just and lasting peace."

Mr. Renshaw seconded, and the motion was carried with acclamation.

It was decided to hold the next meeting of the Council at Manchester, on February 6, 1919, to continue over February 6 if necessary.

This concluded the business.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ALDERLEY.—It is stated that the local authority will expend the large legacy of the late Mr. Otto Beerlein in providing a hospital.

BATH.—Plans passed by T.C.:—Offices at Messrs. Horstmann's Factory, James-street, W.; shed, Newark Works, Lower Bristol-road; conversion into flats, 14 and 15, Portland-place; canteen at premises of the Bath Cabinet Makers' Co.'s Works, Bellott's-road; latrine and temporary offices at the Victoria Engineering Works, Bridge-road.

BEN RHYDDING.—A plot of land adjoining the Parish Church has been purchased at a cost of £300 as a site for a parochial hall.

BRIDLINGTON.—The East Riding E.C. has authorised the Governors of the Grammar School to expend £250 on alterations to Avenue House.

CHAILEY.—The R.D.C. has informed the Sussex C.C. that it intends to erect houses for its own workmen after the war.

CONSETT.—The Medical Officer of Health to the Durham County Council has reported that in his opinion the housing scheme of the U.D.C. is a good one.

DARFIELD.—The U.D.C. has two schemes in hand to improve the housing accommodation. One at Nanny Mar has already received the sanction of the L.G.B. Their second scheme embraces a site adjoining Balkley-lane, and here the Council propose to purchase twelve acres of land from Earl Fitzwilliam.

EAST RIDING OF YORKSHIRE.—The C.C. has approved, a provisional estimate of £3,500 for adapting and equipping Raywell House as a sanatorium for discharged soldiers and sailors.

GILLINGHAM.—The Surveyor has submitted to the T.C. a sketch plan for twelve cottages on the Toronto-road site, and a sub-committee has been appointed to report on the matter.—Plans of a shop with tea-rooms, &c., Canterbury-street, by Mr. E. J. Hammond, for Messrs. Thorn & Moakes, Ltd., have been approved.

GRAVESEND.—Representatives of the Corporat on met the Board of Trade last week on the subject of the proposed new deep-sea wharves at Gravesend.

HARROW.—The Memorial Committee of Harrow School propose that the memorial itself should take the form of a cross and, should the funds permit, a memorial hall, which would contain a record of the names and achievements of those who have fallen, and a gallery for portraits of distinguished Harrovians.

HIGH CARLEY.—The County Tuberculosis Committee of Lancashire has approved the proposed extension at the sanatorium, which will involve an expenditure of £7,500.

HOVE.—Plans passed by T.C.:—Colander room, Conway-street, Mr. B. James, for the Brighton and Hove Laundry Co.,; conversion into two maisonettes, 23, Wilbury-road, Messrs. Albery & Lawrence, for Mrs. Morison.

HULL.—Plans passed:—G. Clark & Son, Ltd., alterations, Waterhouse-lane; British Oil & Cake Mills, Ltd. boiler house, Cleveland-street; Mr. J. H. Fenwick, warehouse, Pulman-street; British Oil & Cake Mills, Ltd., additions, Cleveland-street; McGregor, Gow & Holland, office, Albert Dock; Richard Wade & Son, additions, Southcoates-lane; Wm. Gillyott & Co., Ltd., alterations, High-street; C. D. Holmes & Co., Ltd., additions, Dock-street; Mr. V. Chamberlain, wash house, 226, Balfour-street; Reckitt & Sons, Ltd., store sheds, Stoneferry; Mr. J. H. Fenwick, workshop, Albert-avenue; Kirby Bros., additions, 50-54, Lambert-street.

KENDAL.—Plans passed by T.C.:—Extension to dye works, Old Shambles, Mr. John Hutton, architect, for Messrs. J. D. Whitaker & Co.; canteens, offices, &c., Westmorland Handle Works, Mr. J. Hutton, for Messrs. W. Shepherd & Sons, Ltd.

KIRBYMOORSIDE.—An inspector of the L.G.B. is to discuss the subject of the provision of a housing scheme by the R.D.C.

LEIGH.—The T.C. has received a letter stating that Mr. Richard T. Marsh, of High Peak, Kenyon, near Leigh, had decided to give the town the sum of £10,000 in 4 per cent. War Bonds for the extension of the Leigh Baths, or for such other purpose as the trustees of the fund might consider for the benefit of the town.

LEYTON.—Plans passed by U.D.C.:—Fire escape staircase, Shenstone's Factory, Grange-road, for Mr. P. Cornish; rebuilding timber shed, South Birkbeck-road, for the Stratford Co-operative and Industrial Society. The U.D.C. intends to enlarge the Capworth-street Council school, to provide accommodation for 200 additional children

LINLITHGOW.—With a view to the employment of labour when demobilisation takes place, and also to assisting in the development of the Linlithgowshire shore of the Firth of Forth, a special committee of the Linlithgow C.C. have recommended the Ministry of Reconstruction to reclaim a large area of the Forth foreshore. A further work recommended is the construction of a shore roadway from Bo'ness to Port Edgar. The Government propose to erect at Port Edgar several thousand workmen's houses, and it is urged that the construction of a shore road to join up the coast towns on the southern bank of the Forth from South Queensferry to Grangemouth would be an undertaking of national as well as local importance.

MEXBOROUGH.—The U.D.C. has received the sanction of the L.G.B. to an expenditure of £1,200 for driving a borehole to the Oaks Rock, with a view to supplementing the water supply.

OSSETT.—Plans submitted by Messrs. J. C. & P. Glover and by Messrs. Smith Bros. & Hepworth, have been passed by the T.C.

PENMAENMAWR.—The U.D.C. has approved of the report of the surveyor who recommends that fifty working-class houses should be provided as soon as possible.

PLYMOUTH.—The T.C. proposes purchasing about eight acres of land adjoining Weston Park-road for housing purposes. Plans passed:—Alterations, 27, Portland-square, for Mr. W. F. Clatworthy; billiard-room, 7, Somerset-place, for Mr. H. H. Swiss; alterations, 9, Queen-street, for Lord St. Leven; new shop, &c., Saltash-road, Pennycomquick, for Messrs. Pearce Bros.; shop front, 34 and 35, Fore-street, for George Oliver, Ltd.

POOLE.—It has been decided to take a further step in regard to the war memorial for Poole by getting suitable sketches and designs for both a memorial and a convalescent home.

RHYL.—Mr. P. M. Crosthwaite, L.G.B. Inspector, has conferred with the U.D.C. regarding repairs to the sea wall.

STOCKTON-ON-TEES.—The borough engineer has been instructed to prepare a report upon the suitability of the premises of the Borough Hall and adjoining property and the Corporation site in Church-row for the purposes of a new town hall and municipal offices.

SOUTHEND-ON-SEA.—Plans passed by T.C.:—Additions, Terra Nova," Salisbury-road, for Mr. F. W. Senier.

STRETFORD.—Plans passed by U.D.C.—Office extensions, Ashburton-road, for the British Reinforced Concrete Engineering Co., Ltd.; drainage, Trafford Wharf-road, for Manchester Dry Docks Co., Ltd.; lavatories, &c., Trafford Park-road, for Messrs. W. T. Glover & Co., Ltd.; engineer's office, Mosley-road, for Messrs. H. N. Morris & Co., Ltd.; creosote tank, Mosley-road, for Messrs. H. N. Morris & Co., Ltd.; workshops, power house, &c., Westinghouse-road, for Messrs. Redpath, Brown & Co., Ltd.

TYNEMOUTH.—In connection with an appeal for the Infirmary, the Mayor stated that it is intended, early next year, to commence the installation of a new heating system; and it was also proposed to purchase land for extensions, including a nurses' home and a children's ward.

WOLVERHAMPTON.—Plans passed by T.C.—Sunbeam Motor Car Co., extensions to casting shop, Villiers-street; E. Blakemore & Sons, box room, &c., for war-house, Bedford-road; Clyno Engineering Co., roof over yard, &c., Pelham-street; Pidgeon Bros., extensions of saw mills and offices, Lewis-street; Clyno Engineering Co., sanitary conveniences, Merridale-street and Great Brickkiln-street; L. Jordan, motor house, &c., Clark-road; Frank Myatt & Co., Ltd., boundary wall, &c., Dudley-street; Salmon & Gluckstein, alterations to shop front, 10, Dudley-street.

FIRES

LEEDS.—Damage to the extent of £100,000 was done by fire last week at Messrs. J. Sydeny Smith's Waterloo Tannery, Bramley, Leeds.

Royal Institute of British Architects.

At the general meeting to be held on Monday, November 18, at 5 p.m., Mr. Wm. Dunn, F.R.I.B.A., will read a paper entitled "A Housing Scheme at Chepstow."

*See also our list of Competitions, Contracts, &c., p. 326

Competitions, Contracts, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number. Contracts—; Competitions—; Public Appointments—; Sales by Auction xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

† The date given at the commencement of each paragraph is the latest date when the tender or the names of those willing to submit tenders, may be sent in.

BUILDING AND PAINTING.

NOVEMBER 20.—**Kells.**—CHAPEL.—Tenders are invited for taking down the mission chapel at Blackbeck and re-erecting it at Kells, and also for the fencing of the site. Particulars of the Rev. E. Campbell, 3, Cross-street, Whitehaven.

NOVEMBER 22.—**Carlisle.**—PAINTING.—Tenders invited for outside painting at police stations at Carlisle, Cockermouth, Lazonby, Silloth, Whitehaven, and Wigton. Mr. G. D. Oliver, County Architect, Carlisle

FURNITURE, MATERIALS, etc.

NOVEMBER 16.—**Dublin.**—MATERIALS.—The Dublin & South-Eastern Railway Co. invite tenders for stores for twelve months, including castings, paints, glass, timber, &c. Specifications (price 6d. each) of the Secretary, Westland-row Station, Dublin.

NOVEMBER 28.—**Nottingham.**—MATERIALS.—The Corporation invite tenders for materials for one year. These include cement, road materials, fittings, paints, &c. Forms of tender of Mr. A. Brown, City Engineer, Guildhall, Nottingham. Deposit, 5s.

DECEMBER 1.—**Enniskillen.**—MATERIALS.—The Sligo, Leitrim and Northern Counties Railway Co. invite tenders for the supply of stores of all kinds for twelve months. Forms of tender, of which there are 36, from Mr. John Duff, Secretary, Enniskillen. Charge 1s. per form.

ENGINEERING, IRON AND STEEL.

NOVEMBER 19.—**London.**—HEATING.—The Managers of the Poplar and Stepney Sick Asylum invite tenders for covering with asbestos composition about 620 ft. of steam and hot-water piping. Forms of tender of Mr. S. G. Wright, Clerk's Office, Devons-road, Bow, E.

NOVEMBER 23.—**Chorley.**—HEATING.—The Chorley Corporation invite tenders for supplying and fixing hot-water installations to Child Welfare Centre, Moss Cottage, Chorley. Further particulars of the Borough Surveyor, Town Hall, Chorley.

NO DATE.—**Salford.**—HEATING.—The Salford Guardians invite tenders for proposed hot-water system at temporary infirmary. Specification of Mr. E. H. Inchley, Clerk, Poor Law Offices, Eccles New-road, Salford.

ROAD, SANITARY, AND WATER WORKS.

*NOVEMBER 25.—**Litherland.**—ROADS.—The Urban District Council invite tenders for the reconstruction of carriageway of part of Field-lane, Litherland. Specifications of Mr. W. H. Elce, surveyor, Public Offices, Sefton-road, Litherland.

*NOVEMBER 27.—**London.**—ROADS, &c.—The Metropolitan Asylums Board invite separate tenders for (1) repairs to roads at the Park Fever Hospital, Hither Green, S.E. 13; and (2) repairs to roofs at the Eastern Fever Hospital, The Grove, Homerton, E. 9. Specifications and forms of tender may be inspected at the Office of the Board, Embankment, E.C., on and after 10 a.m. on 15th inst.

Auction Sales.

*NOVEMBER 21.—**London.**—Mr. H. Butcher will sell on the premises, 19 and 21, Speke-road, Clapham Junction, Battersea, S.W., the whole of the valuable and comprehensive stock of a builders' supply merchant and ironmonger. On view two days prior to sale. Catalogues and all information of the auctioneers, Henry Butcher & Co., 63 and 64, Chancery-lane, W.C.2. 'Phone: Holborn 2295.

*NOVEMBER 26.—**London.**—Messrs. J. T. Skelding & Co. will sell the stock and plant of a builder and decorator at 10A, Hartington-road and 43, Wilcox-road, South Lambeth, S.W., including scaffold poles, ladders, varnishes, office and household furniture, also dwelling-house and builder's yard. Auction Offices, 48, Gresham-street, Guildhall, E.C. 2.

*DECEMBER 3.—**London.**—Mr. Ernest Owers will sell at the Mart, Tokenhouse Yard, E.C., an old-fashioned residence at Hampstead Heath. Particulars and plans from the Auctioneer at West Hampstead.

*DECEMBER 10 AND FOLLOWING DAYS.—**Sevenoaks.**—Messrs. F. D. Ibbett & Co. will sell on the premises, St. John's-hill, Sevenoaks, fine stock of well-seasoned sawn timber; also plant and building materials, builder's ironmongery, contents of paint shop, machinery, &c. May be viewed two days prior to sale. Catalogues in due course (1)- each) may be had of the Auctioneers, F. D. Ibbett & Co., F.A.I., 130, High-street, and Station-approach, Sevenoaks.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur :—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers	Plasterers' Labourers.
	d.	d.	d.	d.	d	d.	d.	d.	d.	d.
Aberdare	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/-	1/-	1/-
Accrington	1, 3⅛§	1/3⅛§	1/3⅛§	1/3⅛§	1/3⅛§	1/5§	1/⅛§	1/-§	1/-§	1/-§
Altrincham	1/6§	1/6§	1/6§	1/6§	1/6§	1/6§	1/5§	1/2§	1/2§	1/2§
Ashton-under-Lyne	1/6§	1/6§	1/6§	1/6§	1/5§	1/6§	1/5§	1/2§	1/2½§	1/2½§
Barnsley	1/5§	1/2	1/1½§	1/-§	1/1½§	1/3§	1/-	11	11	11
Barrow-in-Furness	1/3§	1/4	1/4	1 3§	1/3§	1/3§	1/3½	1/1	1/1	1/1
Barry	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/-	1/-	1/-
Bath	1/1	1/1	1/1	1/0½	10/½	1/1	1/-	10½	10½	10½
Bedford	1/1	1/1	1/1	1/1	1/1	1/1	10	10	10	10
Birkenhead	1/6§	1/6§	1/6§	1/6§	1/6§	1/6§	1/6§	1/2½§	1 2½§	1/2½§
Birmingham	1/4	1/4	1 4	1/4	1/3½	1/4	1/3§	1/1	1/1	1/1
Bishop Auckland	1/2½	1/2½	1/4	1/2½	1/2½	1½	11	11	11	11
Blackburn	1/5§	1/5§	1/5§	1/5§	1/5§	1/5§	1/5§	1/1½§	1/1½	1/1½§
Blackpool	1/-	1/2	1/2	10½	8½	1/ ‡	10½	8	8	8
Bolton	1/5§	1,5§	1/5§	1/5§	1/4§	1/6§	1/5§	1/-§	1/-§	1/1§
Bournemouth	1/1	1/1	1/1	1/1	1/1	1/1	1/-	10½	10½	10½
Bradford	1/3½	1/3½	1/3	1/3½	1/2½	1/3	1/1	1/1	1/1	1/1
Bridgwater	1/-	1/-	1/-	1/-	1/-	1/-	11	9½	9½	9½
Brighton	1 1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/-	11	11	11
Bristol	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/-	1/-	1/-
Burnley	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5§	1/1½§	1/ ½§	1/1½§
Burton-on-Trent	1/2	1/2	1/2	1/2	1/2	1/2	1/1½	11½	11½	11½
Bury	1/5§	1/5§	1/5§	1/5§	1/3½§	1/6§	1/5§	1/-§	1/0½§	1/0½§
Cambridge	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/-	10½	10½	10½
Cardiff	1/3	1/3	1/3	1/3	1/3	1/3½	1/2	1/-	1/-	1/-
Chatham	10½‡‡	11‡‡	11‡‡	11‡‡	11‡‡	11‡‡	9½‡‡	8‡‡	8‡‡	8‡‡
Chelmsford	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11	11	11	11
Cheltenham	1/0½	1/0½	1/0½	1/ ½	1/ ½	1/0½	1/ ½	10½	10½	10½
Chester	1/3§	1/3§	1/3§	1/3§	1/3§	1/3§	1/2§	1/-§	1/-§	1/-§
Chesterfield	1/-	1/2	1/1	11	10	11	1/-	8-8½	8-8½	8-8½
Colchester	11	11½	11½	1/-	11	1/-	9½	8½	8½	8½
Coventry	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	1/0½	1/0½	1/1
Crewe	1/ ½	1/ ½	1/3§	1/0½	1/ ½	1/2	1/0½	8	8	8
Darlington	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3	1/0½	1/0½	1/0½
Derby	1/2	1/2	1/2	1/2	1/2	1/2	1/0½	11	11	11½
Doncaster	1/-	1/1	1/1	10½	10½	10	9½	10½	10½	10½
Dudley	1/2	1/2	1/2	1/2	1/2	1/3	1/1	11	11	11½
Durham	1/2	1/2	1/1½	1/2	1/1½	1/10	1/0½	9	9	9
East Glam. and Mon. Valleys	1/3	1/3	1/3	1/3	1/3	1/5	1/2	1/-	1/-	1/-
Exeter	1/-	1/-	1/-	1/-	1/-	1/0½	11	10	10	10
Folkestone	1/-	1/-	1/-	1/-	1/-	1/-	10	9	9	9
Gloucester	1/0½	1/0½	1/0½	1/0½	1/0½	1/0½	11½	10½	10½	10½
Grantham	9½	10	9½	9½	10	8½	8	8	7½	8
Grays	—	1/-	1/-	—	—	1/-	10½	—	10	10
Grimsby	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/-½	1/-½	1/-½
Great Yarmouth	10	10	10	10	10	10	8½	7	7	7
Guildford	1/1	1/-	1/-	1/1	—	1/1	11½	9½	9½	10
Halifax	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1	11½	11½	11½
Harrogate	1/0½	1/0½	1/-	1/-	1/-	1/2	1/1	10	10	10
Hartlepools	1/3½	1/3½	1/3½	1/3½	1/2	1/3½	1/3	1/0½	1/0½	1/0½
Hastings	10	10	10	10	10	10	9	7½	7½	7½
Hereford	1/ ½	1/0½	1/0½	1/0½	1/0½	1/0½	11½	10½	10½	10½
Huddersfield	1/3½	1/3½	1/5§	1/1	1/1	1/2	11	1/0½	1/0½	1/0½
Hull	1/4§	1/4§	1/4§	1/4§	1/4§	1/4§	1/3½	1/2§	1/2§	1/2§
Ipswich	1/1½	1/1½	1/1½	1/2	1/2	1/2½	1/0	11	11	11
Lancaster	1/1½	1/3	1/2	1/1½	1/1½	1/2	1/1½	11	11	11
Leamington Spa	11½	11½	11½	11½	11½	11½	10½	8½	8½	8½
Leeds	1/3½	1/3½	1/3	1/3	1/3½	1/5	1/0½	1/0½	1/0½	1/1
Leicester	1/2	1/2	1/2	1/2	1/2	1/2	1/1	11½	11½	1/-
Lincoln	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/0½	10½	10	10½
Liverpool	1/6§	1/6§	1/6§	1/6§	1/6§	1/6§	1/6§	1/2½§	1/2½§	1/2½§
Llanelly	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/	1/-	1/-
London	1/5	1/5	1/5	1/5	—	1/5½	1/2½	1/1½	1/1½	1/1½
Loughborough	1/3½§	1/2½§	1/1½§	1/3½§	1/3½§	1/1½§	11§	1/0½§	11½§	1/0½§
Luton	1/1	1/1	1/1	1/1	1/1	1/1	1/-	11	11	11
Maidstone	1/1	1/1	1/1	10	10	1/1	1/-	10	10	10
Manchester	1/6§	1/6§	1/6§	1/6§	1/5§	1/6§	1/5§	1/2§	1/2½§	1,2½§
Mansfield	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/0½	10½	10½	10½
Merthyr Tydfil	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/-	1/-	1/-
Middlesbrough	1/3½	1/3½	1/3½	1/3½	1/2	1/3½	1/3	1/0½	1/0½	1/0½
Newcastle-on-Tyne	1/3½	1/3½	1/3½	1/3½	1/2	1/3	1/4§	1/0½	1/0½	1/0½
Newport, Mon.	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/-	1/-	1/-
Northampton	1/1	1/1	1/1	1/1	1/1	1/1	1/-	10½	10½	10½
Norwich	1/-	1/-	1/-	1/-	1/-	1/-	11	9½	9½	9½
Nottingham	1/2½	1/2½	1/2½	1/2½	1/2½	1/3½	1/1	1/0½	1/ ½	1/0½
Oldham	1/5	1/5	1/5½	1/5½	1/4	1/4	1/5½	1/1½§	1/1½§	1/2§
Oxford	1/0½	1/-	1/-	1/-	1/-	1/-	11	9½	9½	9½
Plymouth	1/2	1/2½	1/2	1/2	1/2	1/2	11½¶	11	11	11
Pontypridd	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/-	1/-	1/-
Portsmouth	1/-	1/-	1/-	1/-	1/-	11	10	9½	9½	9½
Preston	1/4½	1/4½	1/4	1/3½	1/3	1/4	1/3½	1/0½	1/0½	1/0½
Reading	1/1	1/1	1/1	1/1½	1/2	1/1	11½	11	10½	10½
Rochdale	1/6§	1/6§	1/6§	1/6§	1/4	1/6§	1/5§	1/1½§	1/1½§	1/2½§
Rochester	10½‡‡	11‡‡	11‡‡	11‡‡	11‡‡	11‡‡	9½‡‡	8‡‡	8‡‡	8‡‡
Rugby	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/0½	10½	10½	11½
St. Albans	1/-	1/-	1/2	1/-	1/-	1/-	10§	9	9	9
St. Helen's	1/6	1/6	1/6	1/6	1/6	1/5	1/3	11½	11½	11½
Scarborough	1/1	1/1	1/1	1/1	1/1	1/-	11½	10	10	10
Sheffield	1 4	1/4	1/4	1/3½	1/3½	—	1/2½	1/0½	1/0½	1/0½
Shrewsbury	8½	11½	1/3	9½	—	8½	7	8½	8½	8½
Southampton	1/1	1/1	1/1	1/1	1/1	1/1	1/-	10½	10½	10½
Southend-on-Sea	10	10	10	10	Piecework	10	9	8	8	8
Southport	1/4	1/4½	1/5	1/4	1/4	1/4	1/4	1/-	1/-	1/-
South Shields	1/3½	1/3½	1/3½	1/3½	1/3½	1/3	1/4§	1/0½	1/0½	1/0½
Stockport	1/5§	1/5§	1/5§	1/4§	1/4½§	1/6§	1/5§	1/1	1/1	1/1
Stockton-on-Tees	1/1½	1/3½	1/3½	1/3½	1/2	1/3½	1/3	1/0½	1/0½	1/0½
Stoke-on-Trent	1/2	1/2½	1/2	1/2	1/2	1/1½	1/1½	11½	11½	11½
Stroud	11½	11½	11½	11½	11½	11½	11	9½	9½	9½
Sunderland	1/3½	1/3½	1/3½	1/3½	1/2	1/1½	1/4§	1/0½	1/0½	1/0½
Swansea	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/-	1/-	1/-
Taunton	1/-	1/-	1/-	1/-	1/-	1/-	11	9½	9½	9½
Torquay	1/-	1/-	1/-	1/-	1/-	1/-	1/-	10	10	10
Wakefield	1/2½§	1/3§	1/2½§	1/2½§	1/2½§	1/3§	1/ ½§	11½	11½	11½
Walsall	1/2	1/2	1/2	1/2	1/2	1/2	1/0½	11½	11½	11½
Warrington	1/6§	1/6§	1/6§	1/6§	1/6§	1/6§	1/5§	1/2½§	1/2½§	1/3§
West Bromwich	1/3½	1/3½	1/3½	1/4	1/3½	1/3	1/1½	1/0½	1/0½	1/0½
Wigan	1/5½§	1,5½§	1/5½§	1/5½§	1/5§	1/5½§	1/5§	1/2§	1/2§	1/2§
Windsor	1/-	1/-	1/-	1/-	1/-	1/-	10½	9	9	9
Wolverhampton	1/2	1/2	1/2	1/2	1/2	1/2	1/0½	11	11	11
Worcester	1/-	1/-	1 -	1/-	1/-	1/-	10	10½	10½	10½
York	1/2§	1/2§	1/2§	1/2§	1/-	1/-	11	11½§	11½§	11½§

The Masons' rate given is for bankers: fixers usually ½d. per hour extra. * War bonus of 2s. per week granted. † War bonus of 3s. per week granted. ‡ War bonus of 3s. 6d. per week granted. ‡‡ War bonus of 4s. per week granted. ¶ War bonus of 7s. 6d. per week granted. § These rates include the 12½ per cent. bonus. The above rates, unless otherwise shown, are exclusive of 12½ per cent. bonus.—ED.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge. £ s. d.
Best Stocks 3 3 6

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons	2 7 8	Best Blue Pressed Staffordshire ...	7 18 6
Best Stourbridge Fire bricks	9 5 0	Do. Bullnose ..	8 3 6
GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers ..	17 17 6	D'ble Str'tch'rs	23 7 6
		D'ble Headers	20 7 6
		One Side and two Ends ..	24 7 6
Headers.....	17 7 6	Two Sides and one End	25 7 6
Quoins, Bullnose and 4½in. Flats	21 7 6	Splays and Squints.....	22 17 6

Second Quality, £1 per 1.000 less than best.
Glazed bricks priced at so much each, 50 per cent. advance on list.
Permission to be obtained from Director of Supplies for Flettons, Wire Cuts, &c.

	s. d.		
Thames Ballast	17 0	per yard,	delivered
Pit Sand	16 0		
Thames Sand	17 0	„ „	2 miles
Best Washed Sand	17 0	„ „	radius
½in. Shingle for Ferro-Concrete	15 0	„ „	Paddington.

Per ton, delivered.

	£ s. d.		£ s. d.
Best Portland Cement	3 8 0	..	3 11 0

Do. 2s 10s. 0d. alongside in 80-ton lots.
Ferrocrete 2s. 6d. per ton extra on above.
Best Ground Blue Lias Lime 2 2 6 at rly. depot.
NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 6d. each and credited at 2s. each if returned in good condition within three months.
Grey Stone Lime ..... 47s. 0d. per ton delivered.
Stourbridge Fireclay in s'cks 37s. 6d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube.....	1 7
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	1 8½
Do. do. delivered on road waggons at Nine Elms Depot	1 9½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L.& S.W.R., South Lambeth Station, G.W.R., and Mileage Station G.W.R., per ft. cube	2 10½
Do. do. delivered on road waggons at above stations, per ft. cube..	2 11½
White basebed, 2d. per ft. cube extra.	
NOTE.—½d. ft. cube extra for every foot over 20 ft. *average.*	

RANDOM BLOCKS—Per Ft. Cube, delivered at Rly. Dpot.

	s. d.		s. d.
Ancaster in blocks	2 10	Closeburn Red	3 0
Beer in blocks ...	1 9	Freestone	
Grinshill in blocks	2 6	Red & White Mansfield random block	4 8
Darley Dale in blocks.....	2 10	Yellow Magnesian Limestone do. do	3 9

YORK STONE, BLUE—*Robin Hood Quality.*

	s. d.
Delivered at any Goods Station London.	
Scappled random blocks .....Per Ft. Cube	5 8
6 in. sawn two sides landings to sizes (under 30 ft. super.) .....Per Ft. Super	4 6
6 in. rubbed two sides, ditto ..... „	4 11
3 in. sawn two sides slabs (random sizes) „	1 11
2 in. to 2½ in. sawn one side slabs (random sizes) ..... „	1 3
1½ in. to 2 in. ditto, ditto ..... „	1 1
HARD YORK—	
Delivered at any Goods Station London.	
Scappled random blocks .....Per Ft. Cube	4 9
6 in. sawn two sides landing to sizes (under 40ft. super.) .....Per Ft. Super	4 0
6 in. rubbed two sides ditto ..... „	5 0
in. sawn two sides slabs (random sizes) „	1 11
2 in. self-faced random flags ..Per Yard Super	6 0

WOOD.

TIMBER CONTROL ORDER, 1918.

Pursuant to paragraph 3 of the Timber Control Order, 1918, the Controller of Timber Supplies hereby gives notice that until further notice the following shall be the maximum prices at which imported timber may be sold. These prices are per standard landed and in store.

WHITE SEA REDWOOD

	1st £	2nd £	3rd £	4th £		1st £	2nd £	3rd £	4th £
4 ×11.....	59	57	55	53	2 × 9.....	53	51	49	47
4 × 9.....	56	54	52	50	2 × 8.....	52	50	48	46
4 × 8.....	53	51	49	47	2 × 7.....	52	50	48	46
4 × 7.....	53	51	49	47	3 × 6	unsorted			47
2½ & 3×11..	58	56	54	51	2½ × 6	unsorted			47
2½ & 3×9 ..	53	51	49	47	3 × 5	unsorted			46
3 × 8.....	52	50	48	46	2½ × 5	unsorted			46
3 × 7.....	52	50	48	46	2 × 6	unsorted			47
2½ & 7/8	52	50	48	46	2 × 5	unsorted			45
2 ×11.....	58	56	54	51	2 × 4	unsorted			45

UNSORTED LARCHWOOD at 3rd Archangel Redwood Prices.
Boards, 1st and 2nd, £2 10s. extra.
Boards, 3rd and 4th, £1 10s. extra.

WHITE SEA WHITEWOOD.

	1st. £	2nd. £	3rd. £			1st. £	2nd. £	3rd. £.
3×11	57	55	50	3×8 u/s ..		48		
3×10	54	52	49	3×7 u/s ..		48		
3× 9	52	50	48	2½&2× 8 u/s		48		
	£	s.	d.			£	s.	d.
2½& 2×7 u/s..	48	0	0	2½× 5 u/s	..	46	0	0
3 ×6½ u/s....	47	10	0	3 × 5 u/s....		46	0	0
2 ×6½ u/s....	47	10	0	2 × 5 u/....		45	0	0
2½& 3×6 u/s..	47	0	0	2 × 4 u/s....		45	0	0
2× 6 u/s	47	0	0					

Boards, £1 10s. extra per std.

WOOD (*Continued*).

FEATHER EDGED BOARDS, £50 per std.
SAWN LATHS, 3s. 9d. per bundle.
U/S SLATING BATTENS (yellow and white and strips), £44.
5th ditto, £42.

SWEDISH AND NORWEGIAN FLOORING AND MATCHING.

U/S Red and White.

Per 100ft. super.	Per 100 ft. super
1¼in. P.E. at 71/6	¾in. P.E. at 37/-
1¼in. P.E. at 60/-	¾in. P.E at 31/-
1in. P.E. at 47/-	¾in. P.E. at 23/-
¾in. P.E. at 41/-	

If tongued and grooved or tongued and grooved and matched, 9d. per square extra.

1in. × 11in. P.E at £54 1in. × 9in. P.E. at £51
1in. × 10in. P.E. at £53 1in. × 8in. P.E. at £49

CANADIAN AND AMERICAN YELLOW PINE

	1st £	2nd. £	3rd. £		1st. £	2nd. £	3rd. £
3×12 and up	80	69	67	3× 8	62	55	53
3×11	78	63	61	3× 7	60	53	51
3×10	66	58	56	3×4/6.....	58	51	49
3× 9	64	56	54				

For complete specification and controlled prices, see issue of September 6, page 148.

Dry Wainscot Oak, per ft. super, as inch	0	3	0	..	—
¾ in. do. do.	0	2	3	..	—
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	3	0	..	0 4 0
Cuba, Mahogany	0	3	0	..	0 4 0
Teak (Rangoon, Moulmein or Java), per load.. ..	70	0	0	..	85 0 0
American Whitewood planks, per ft. cube ..	1	8	0	..	1 10 0
Scotch Glue, per lb.	0	2	8	..	—

SLATES.

		Per 1,000 of 1,200 f.o.r. London. £ s. d.
Best Blue Bangor Slates,	20 by 10	21 0 0
	16 by 8	10 0 0
First quality „ „	20 by 10	20 0 0
	16 by 8	10 5 0
Best Blue Portmadoc	20 by 10	20 0 0
	16 by 8	10 0 0
First quality „	20 by 10	19 10 0
„ „	16 by 8	9 15 0

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district.....	4 15 0
Ditto hand-made ditto.....	5 0 0
Ornamental ditto	5 2 6
Hip and valley tiles (per dozen)	0 9 0

METALS.

JOISTS, GIRDERS, ANGLES, C.I. COLUMNS, &c.

(*Prices controlled by Ministry of Munitions.*)

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £4 net value delivered direct from works. 5 per cent. less carriage forward if sent from London stocks.)

	Sizes up to and including 2 in. Tubes.	Fittings.	Sizes 2½ in. to 6 in. Tubes.	Fittings.
Gas	31½	35	36½	37½
Water	26½	32½	31½	35
Steam	21½	30	26½	32½
Galvanised Gas ..	8½	27½	12½	30
„ Water	—	25	3½	27½
„ Steam	6½ *on*	22½	2½ *on*	25

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d		Bends, stock angles. s. d.		Branches, stock angles s. d.	
2 in.	per yd. in 6 fts..	4 2	..	3 1	..	3 8
2½ in.	„ ..	4 9	..	3 5	..	4 7
3 in.	„ ..	5 10	..	3 8	..	5 6
3½ in.	„ ..	6 6	..	4 7	..	6 6
4 in.	„ ..	7 1	..	5 2	..	7 3

RAIN-WATER PIPES, &c.

	Pipe. s. d.		Bends, stock angles. s. d.		Branches, stock angles s. d.	
2 in.	per yd. in 6fts. plain	2 9½	..	1 8½	..	2 4½
2½ in.	„ „ ..	3 1	..	1 11½	..	2 9½
3 in.	„ „ ..	3 8	..	2 6½	..	3 8
3½ in.	„ „ ..	4 5	..	3 0	..	4 3½
4 in.	„ „ ..	4 10	..	3 6	..	5 3

L.C.C. DRAIN PIPES,—9 ft. lengths. London Prices.
4 in., 7s. 7d. .. 5 in.. 9s. 2d. .. 6 in.. 10s. 9d.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	16 10 0	to	17 0 0
Staffordshire Crown Bars — good merchant quality	17 0 0	..	17 10 0
Staffordshire "Marked Bars"	18 0 0	..	19 0 0
Mild Steel Bars	21 0 0	..	21 10 0
Steel Bars, Ferro-Concrete quality, basis price ..	19 10 0	..	20 0 0
Hoop Iron, basis price ..	20 10 0	..	21 10 0
„ „ Galvanised ..	33 0 0	..	—
Sheet Iron Black—			
Ordinary sizes to 20 g. ..	23 0 0	..	23 10 0
„ „ 24 g. ..	24 0 0	..	24 10 0
„ „ 26 g. ..	25 0 0	..	26 0 0
Sheet Iron, Galvanised flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g. ..	34 0 0	..	—
Ordinary sizes to 22 g. and 24 g.....	34 0 0	..	34 10 0
Ordinary sizes to 26 g. ..	36 0 0	..	36 10 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheet Iron, Galvanised, flat, best quality—			
Ordinary sizes to 20 g. ..	35 10 0	..	—
„ „ 22 g. and 24 g.	36 0 0	..	—
Ordinary sizes to 26 g. ..	39 0 0	..	—
Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 8 ft. 20 g.....	33 0 0	..	Nominal prices only.
Ordinary sizes, 22 g. and 24 g.....	33 10 0	..	
Ordinary sizes, 26 g.	32 10 0	..	
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker.....	24 10 0	..	—
Best Soft Steel Sheets, 20 g. and 24 g.....	24 15 0	..	—
Best Soft Steel Sheets, 26 g.	26 10 0	..	—
Cut Nails, 3 in. to 6 in.	29 0 0	..	30 0 0

(Under 3 in.. usual trade extras.)

LEAD, &c.

Delivered in London.

	£ s. d.		£ s. d.
LEAD—Sheet, English, 4 lb. and up	40 0 0	..	—
Pipe in coils	40 10 0	..	—
Soil Pipe	43 10 0	..	—
Compo pipe	44 10 0	..	—

NOTE—Country delivery, 20s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra. Orders for over 1 cwt. Sheet Lead or Pipe, or 28 lbs. Solder should be accompanied by a certificate or licence, which can be obtained from the Director of Materials [A.N.2 (E)], Hotel Victoria, S.W. Smaller quantities than the above can be obtained by making a written declaration to the Manufacturer or Merchant that the metal is wanted for urgent renewals or repairs, and giving the name of the job for which it is required.

		£ s. d.	
COPPER—			
Strong Sheet ....per lb.		0 2 3	Class A certificate required for all Copper, Tin and Solder purchases.
Thin „	„	0 2 4	
Copper nails	„	0 2 3	
Copper wire	„	0 2 4	
TIN—English Ingots	„	0 1 9	
SOLDER—Plumbers'	„	0 1 10	
Tinmen's.....	„	0 2 4	
Blowpipe	„	0 2 8	

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

Per Ft.		Per Ft.
15 oz. fourths	7d.	32 oz. fourths .... 10d.
„ thirds	7½d.	„ thirds ..... 11d.
21 „ fourths	8d.	Fluted, Obscured and
„ thirds	8½d.	Enamelled Sheet,
26 „ fourths	9d.	15 oz. 7½d.
„ thirds	9½d.	21 „ 8½d.

Extra price according to size and substance for squares cut from stock, and only small quantities can be supplied without an A Certificate.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
¼ Rolled plate	5½d.
⅜ Rough rolled and rough cast plate.....	6d.
½ Rough rolled and rough cast plate.....	6½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	6½d.
Ditto, tinted	7½d.
Rolled Sheet	6d.
White Rolled Cathedral.....	6d.
Tinted do.	6½d.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil in pipes.....	per gallon	0 8 0
„ „ „ in barrels	„	0 8 4
„ „ „ in drums	„	0 8 7
Boiled „ „ in barrels	„	0 8 7
„ „ „ in drums	„	0 9 0

Orders for these oils must be accompanied by a certificate from the Ministry of Food (Oil and Fat Department), St. Stephen's House, Westminster, S.W.1

		£ s. d.
Turpentine in barrels	„	0 11 0
„ in drums	„	0 11 3
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		60 10 0
GENUINE WHITE LEAD PAINT— "Blackfriars," "Nine Elms," "Park," and other best brands (in 14 lb. tins) not less than 5 cwt. lots..per ton delivered		83 10 0
Red Lead, Dry (packages extra) .. per ton		47 0 0

Orders for White and Red Lead and any Paint containing Lead must be accompanied by a certificate or licence, which can be obtained from the Director of Materials [A.N. 2 (E.)], Hotel Victoria, S.W.

		£ s. d.
Best Linseed Oil Putty	per cwt.	1 6 0
Filocol.....	per cwt.	1 0 6

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak	0 16 0
Pale Copal Oak	0 17 0
Superfine Pale Elastic Oak.....	0 19 0
Fine Extra Hard Church Oak	0 18 0
Superfine Hard-drying Oak, for seats of Churches	1 1 0
Superfine Pale Elastic Carriage	1 1 0
Fine Pale Maple	0 14 0
Finest Pale Durable Copal.....	1 5 0
Extra Pale French Oil	1 4 0
Eggshell Flatting.....	1 0 0
White Pale Enamel	1 6 0
Extra Pale Paper.....	0 16 0
Best Japan Gold Size	0 12 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 12 0
Brunswick Black	0 10 0
Berlin Black.....	0 16 0
Knotting	1 10 0
French and Brush Polish	1 0 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 12 noon on Wednesday.*

* Denotes *accepted.* † Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance*

LONDON.—For supply of cast-iron frames for the Southern Outfall Works, for the L.C.C. :—

*Seagers, Ltd., Dar ord	£235
Glenfield & Kennedy	260
Blakeborough & Sons	270
Clayton, Goodfellow & Co.	335

LONDON.—For supply of lime to the Borough Council of Bethnal Green :—
*Bartlett, Sills & Co., Portland cement at £3 4s. per ton; grey stone lime £2 6s.

REDDITCH.—For (*a*) extension of engine and boiler-house at electricity works : and (*b*) ferro-concrete work for overhead coal bunkers, &c, for the Redditch Corporation. (Architect : Mr. F. F Baylis.) —
*C. G.Hains & Sons (*a*) £4,195 : (*b*) £3,859 7s. 6d.

WOLVERHAMPTON.—For erection of timbers, platform, railings, &c., at electricity works, for the Corporation :
*Gibbons, Dudley £188

NEW COMPANIES.

THE particulars quoted below have been compiled by Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C. 2, from the documents available at the Companies Registry.

D. HALFORD & SONS, LTD. (151,790.) Registered October 28, 1918. To acquire and carry on the business of timber merchants and contractors. Nominal capital £20,000.

EVANS & YEOMANS, LTD. (151,813.) Registered October 30, 1918. To carry on the business of ironfounders, iron, steel, and general merchants, &c. Nominal capital £100.

FERROTHERM, LTD. (151,801.) Registered October 29, 1918. 57, 58, 59, Long Acre, W.C. To carry on the business of engineers and contractors, electro-platers, ironfounders, &c. Nominal capital £3,000.

GRUMBLEHULME, LTD. (151,811.) Registered October 30, 1918. To acquire and carry on the business of general ironfounders, kitchen range and stove grate makers, brassfounders, &c. Nominal capital £15 000.

HALL BROTHERS' ENGINEERING WORKS, LTD. (151,802.) 14, John-street, Bedford-row, London. Registered October 29, 1918. To acquire and carry on the business of engineers, ironfounders, tool makers, brass founders, &c. Nominal capital £5,000.

O. O. O., LTD. (151,810.) Registered October 30, 1918. "Glennard," Coronation-road, Great Crosby, Liverpool. To carry on the business of manufacturers of cement, concrete workers, carvers and pressers of wood, &c. Nominal capital £100.

OGILVIE & CO., Telephone : DALSTON 1388. Many years connected with the late firm of W. H. LASCELLES & Co., of Bunhill Row.
Mildmay Works, Mildmay Avenue, Islington, N.
EXPERTS IN HIGH-CLASS JOINERY.
ALTERATIONS AND DECORATIONS. ESTIMATES FREE.

PATENTS.

APPLICATIONS PUBLISHED.*

114,840.—C. Sambuc : Boilers for hot-water heating systems.

119,412.—C. Woodcock : Runner devices applicable to sliding doors, monkey carriages trolleys, turntables, skids and like apparatus and appliances.

119,572.—Bell's United Asbestos Co., E. Hurden, and J. A. Cann : Construction of walls, partitions, and the like.

119,588.—C. Hunt : Lifting, hauling, and lowering devices.

119,593.—W. J. Calder : Chimney cowl or top.

119,599.—E. Bernitz : Furnace walls.

119,614.—W. N. Haden and C. I. Haden : Cooling and heating of buildings.

119,645.—J. W. Cryer and N. Mangnall : Locking mechanism in connection with hoists, lifts, and the like.

119,67[illegible].—W. N. Haden and C. I. Haden : Heating and cooling system for buildings.

* All these Applications are now in the stage in which opposition to the grant of Patents upon them may be made.

Factory Lighting.

Many users of light—manufacturing establishments, factories and workshops—do not realise that factory lighting has been entirely revolutionised during the last five or six years. The best available lighting prior to 1913 is, by to-day's standards, obsolete and more costly to keep than it is to replace. With the new half-watt or gas-filled types of lamps, such as the "Mazda," there is no excuse for any but the most adequate and satisfactory illumination. It is only under sufficient and properly distributed lighting that workmen can produce at full capacity. Every care should be taken to see that light is not wasted, as it is in the majority of cases with out-of-date and inefficient lamps and lighting equipment.

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Bethnal Green Slate Works,
BETHNAL GREEN, LONDON, E.

TRADE NEWS.

WE understand that St. Nicholas' Chapel, King's Lynn, has been seriously affected with dry-rot in the wood flooring of the nave. It became necessary for the floor to be entirely taken out and replaced at a total cost of about £500, as there was danger that the roof carvings might become infected with the floating spores The authorities have taken precaution against a recurrence of the trouble, which was caused by rising dampness, by waterproofing the concrete under the new wood paving blocks with the powder "Pudlo," which is manufactured in the town

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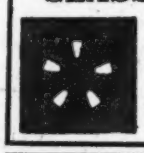
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